

HOW A PRESCHOOL IMPLEMENTS AND SUSTAINS CREDE PRACTICES

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Abstract

This study focused on how educators at the University of Hawai`i at Mānoa Children’s Center implemented and sustained use of the Center for Research on Education, Diversity, and Excellence (CREDE) Standards for Effective Pedagogy. The model focuses on the social and cultural aspects of learning and originally was developed for older learners. Ten years prior to the current study, educators at the preschool were involved in adapting the Standards for early childhood education. Using qualitative interviews with teachers and observations of the classroom settings, I wanted to understand how the educators learn about, implement, and sustain their use of the Standards. I found that the student-centered aspect of the school, the curriculum they use, and the community surrounding it are important components to understanding the Children’s Center. I also found that the CREDE Standards provides the educators with labels for what they are doing, and although the newer staff may not be familiar with those specific labels, they still incorporate CREDE into their teaching because CREDE is so integrated into the Children’s Center. Support from others within the Children’s Center and formal professional developments are what allows the staff to sustain the use of the CREDE Standards in practice.

How a Preschool Implements and Sustains CREDE Practices

I first became acquainted with the University of Hawai`i Mānoa Children's Center (Children's Center) through one of my courses in the Educational Psychology Department. We visited the school and learned about how the curriculum the teachers use differs from that of other early-childhood education classrooms. The difference was that the Children's Center teachers were using the Center for Research on Education, Diversity, and Excellence (CREDE) standards for Effective Pedagogy adapted for early childhood education. The CREDE standards were designed to help K-12 teachers develop strategies to teach learners of different backgrounds (Tharp, Estrada, Dalton, & Yamauchi, 2000). Yamauchi and educators at the Children's Center collaborated to adapt the CREDE standards to fit the needs of early childhood educators (Yamauchi, Im, & Schonleber, 2012). Since then, the Children's Center has been using the CREDE model in their classrooms for ten years. Through this research, I hoped to learn about the consistency and success of these practices and how they have been sustained.

The purpose of this study is to use qualitative research methods to investigate (a) how the staff was able to sustain the CREDE model implementation across staff changes, and (b) what the experiences of preschool educators who teach at a CREDE preschool are like.

Literature Review

The CREDE Standards for Effective Pedagogy

Research on CREDE focuses on combating the issues that many minority students face in the education system due to their race, socioeconomic status, and geography (Tharp, 2007). After years of research with CREDE's predecessor, the National Center for Research on Cultural Diversity and Second Language Learning, Roland Tharp (1997) developed the CREDE Universal Standards for Effective Pedagogy. He proposed that if used in K-12 classrooms, the

standards could benefit the achievement of not only minority students, but that of other students, as well, because of the Standards' focus on social interaction and context.

The CREDE standards are as follows.

- (a) Joint Productive Activity: The teacher and children collaborating on a joint product. A product can be tangible or intangible;
- (b) Language and Literacy Development: Developing competence in a full range of communication types across all content areas;
- (c) Contextualization: Connecting new knowledge and experiences to prior knowledge and experiences from home, school, and community settings;
- (d) Complex Thinking: Challenging children toward deeper cognitive models of information processing;
- (e) Instructional Conversation: teaching through collaborative dialogue and questioning;
- (f) Associative Modeling: encouraging children to make connections between behaviors, ideas, concepts, or procedures as part of more complex systems;
- (g) Child-Directed Activity: Encouraging independent decision making and self-regulated learning;

Tharp (2008) originally developed the first five standards, and some researchers and educators refer to only the first five. However, the last two, Modeling and Child-Directed Activity, were added after research with indigenous populations indicated their relevance. Tharp hoped that by implementing these standards at various schools, educators could reduce the risk factors associated with students of different cultures, especially since the racial make-up of the United States is so rapidly changing.

Theoretical Framework

Tharp (1997) developed the CREDE Standards based on Vygotsky's (1978) sociocultural theory. Vygotsky asserted that all learning takes place through interactions with other people. Social interaction between children and more knowledgeable adults or peers creates a situation of collaborative dialogue which facilitates learning in young children. These collaborative conversations create the basis for higher order thinking for what Vygotsky referred to as "higher mental functions" which include attention, perception, and memory.

In addition to social interaction guiding the learning of young children, Vygotsky (1978) also emphasized the importance of culture in shaping interactions, and thus, learning as well. As such, the environment in which children grow will affect their cognitive development. Tharp's (1997) CREDE model was designed around both the social aspect and the cultural aspect of Vygotsky's theories in order to create an ideal learning environment for minority students whose cultures may differ significantly from that of the majority or classrooms that may contain many cultures.

CREDE in Practice

In Hawai'i in the 1970s, Tharp, Jordan, Speidel, Au, Klein, Calkins, Sloat, and Gallimore (2007) in collaboration with others at Kamehameha Schools, employed a program called Kamehameha Early Education Program (KEEP) as an attempt to better engage Native Hawaiian students in the learning process within their own cultural context. Tharp and colleagues found that the problem was that the home learning environments of students were drastically different from their school learning environments, thus leading to less learning. By working to change the school environment to better match the home environment, KEEP was successful in increasing Hawaiian children's language arts achievement (Tharp et al., 2007). The researchers mentioned

that one of the reasons KEEP was successful was because it was a collaborative effort, and instructors were constantly evaluating and making changes to the program. Later, Tharp (2008) took knowledge learned from KEEP to his work at the National Center for Research on Cultural Diversity and Second Language Learning which was the predecessor to CREDE. At the two consecutive national research centers, the model began to evolve.

Since then, researchers have studied the implementation of the CREDE standards at different locations with learners of different ages using varied research methods including qualitative focus groups, interviews, and observations, mixed-methods studies including quantitative analysis methods of the Standards Performance Continuum (SPC), and case studies on specific schools and teachers. Despite the differences of the contexts, participants, and data collection methods, many of these studies have shown positive results in schools associated with the use of the CREDE standards. In each study, both the teachers and the students benefitted from certain aspects of the CREDE model.

For example, in Wyatt, Yamauchi, and Chapman-DeSousa's (2012) case study of a Greenlandic school, one teacher implemented the CREDE standards in her classroom of fifth and sixth graders. The researchers observed her class instruction time, conducted an interview after the lesson, and used qualitative methods to analyze the data. The Standards Performance Continuum (SPC) was also used to rate the teacher's use of each of the CREDE standards during instruction. The researchers found that the teacher successfully incorporated activities into her lessons that fit with each of the CREDE standards as well as the culture of the country. As a result, the students were able to create a shared vocabulary, understand academic material as it related to their lives, and answer open-ended complex thinking questions.

Doherty and Hilberg (2007) found similar success in the implementation of the CREDE standards at a school serving primarily low-income Latino students who struggled with the English language. The school they observed for this study had no formal CREDE coaching. A staff developer came in to talk about the Standards at grade-level meetings, but there was no school-wide CREDE professional development. The educators there all tried to implement the standards on their own. Doherty and Hilberg compared this school to another one, very similar in composition, that did not use any form of CREDE. The researchers used the SPC in observations of these two schools to determine the influence of CREDE in each. They found that they could reliably predict students' achievement on year-end standardized tests based on their teachers' use of the standards in language arts. In addition, they found that restructuring the classroom to a CREDE model in general was correlated to an increase in English comprehension, language, reading, and vocabulary achievement.

Saunders and Goldenberg (2007) studied a primarily Latino, low-income elementary school in which 88% of the students had limited English proficiency. They worked with a fourth grade teacher to develop a curriculum based on Instructional Conversations to help her students develop their understanding of friendship. They randomly assigned students to two groups and used Instructional Conversations with one group. Using a pretest and posttest design, the researchers found that the group that received the lesson that included Instructional Conversation outperformed the control group in a test containing a conceptual writing task about the idea of friendship and literal comprehension questions about the story. The United States Department of Education What Works Clearinghouse reviewed 73 studies on programs focused on helping English language learners in elementary schools (CREDE 2017). Based on Saunders and

Goldenberg's study, the What Works Clearinghouse ranked use of CREDE as first in reading achievement and second in English language development (What Works Clearinghouse 2006)

The CREDE standards have not only been used to aid student achievement, but also teacher professional development, as well. In another study conducted in Greenland, Wyatt and Lyberth (2011) coached preschool teachers on how to implement Instructional Conversation, one of the CREDE standards, in their own classrooms. The professional development sessions the researchers held used Instructional Conversations. All staff who worked in the preschools, including teachers as well as kitchen staff, administrators, and cleaning staff received professional development on how to create Instructional Conversation-based curriculum, even if they were not in classrooms. The coaches wanted the children to consistently be exposed to Instructional Conversation throughout the day to emphasize the sense of community that Greenlanders prioritize. In order to coach the teachers in Instructional Conversation, Wyatt and Lyberth used strategies of instructional coaching. Instead of coaching teachers individually, the researchers chose to use coaching groups, reinforcing the idea of being a community of learners. The teachers provided input on the professional development and changed the standards to make the model more appropriate for Greenland's culture. These adaptations included using modeling and observations, a focus on community success, and longer professional development sessions to accommodate the Greenlandic language. The professionals appreciated having an educational model that they had a hand in creating to fit their culture and needs.

Teemant (2014) also studied professional development in the CREDE standards. She provided professional development using instructional coaching methods for 36 K-6 elementary school teachers of culturally diverse students. She used the SPC with pre-intervention classroom observations, post-intervention classroom observations, and classroom observations one year

after intervention for each participant in order to analyze how much CREDE was being used in the classrooms. She also conducted focus group interviews for the teachers to discuss their experiences. Teemant found that the average scores for each category of the SPC increased between the pre-intervention observations and the post-intervention observations. Although the teachers' mean SPC scores were lower in the observations conducted one year after the study, the scores were still much higher than those in the pre-intervention observations. Most of the participants were able to sustain their CREDE practices one year after the study. Like Wyatt and Lyberth (2011), Teemant found through her qualitative data that the teachers responded to the collaborative and supportive aspect of the CREDE standards.

Estrada (2005) combined concepts of effective professional development and effective pedagogy to train teachers in a primarily Latino school on how to implement the CREDE standards in their classrooms. Although she chose to focus on one specific teacher's use of the standards, Estrada found that teachers at that school in general liked the responsiveness of the CREDE model to the teachers' individual needs, the collaboration within the teachers' learning community as well as with the researchers, and the time to reflect on practice with others in that community. As a result of the teacher's use of the CREDE model, 76% of her students reached grade-level in reading, as compared to 47% in the year before the professional development.

These examples suggest that the widespread success of the CREDE standards, both as effective pedagogy and effective professional development, may be attributed to many different aspects of the standards, namely its universality, the flexibility that comes with implementing the standards, and the collaborative aspect of the professional development. Teachers created their own forms of curriculum based on the CREDE standards, the local culture, and the resources available to them (Wyatt et al., 2012). The flexibility that came with the standards appears to

make classroom time more appealing to teachers because they could alter the curriculum to fit their needs and students. The collaborative aspect of the standards is useful to not only students' learning, but teachers as well, when designing their curricula (Wyatt & Lyberth, 2011; Teemant, 2014). Teachers were able to ask for feedback and help and could adjust their curricula and pedagogy as effective as possible for particular groups of students.

The CREDE Standards are consistent with developmentally appropriate practice, a hallmark of Early Childhood Education (Tharp & Entz 2003). Tharp and Entz compared the CREDE Standards to Bredekamp and Coople's (1997) criteria for developmentally appropriate practices. They found that those developmentally appropriate practices align well with the CREDE Standards. For example, Bredekamp and Coople suggested that "Development and learning occur in and are influenced by multiple social and cultural contexts" (p. 12). Tharp and Entz (2003) related that to the CREDE Standard of Contextualization in which educators relate new material to the children's prior knowledge and experiences from home. However, Tharp and Entz only compared the developmentally appropriate practices to the original five CREDE Standards and did not discuss congruence with the two standards added for early childhood education (Modeling and Child-Directed Activity).

Professional Development

Studies of professional development contribute to our understanding about long-term effects of such programs. Researchers have investigated what makes professional development effective and lasting. Guskey and Yoon (2009) studied nine studies of professional development and looked at what they had in common in terms of what worked. They found 6 things that were effective in the studies they looked at. Those were workshops, outside experts, time, follow-up, activities, and content. Workshops, although sometimes regarded as ineffective professional

development, were found to be effective when they focused on research-based practices. Outside experts should be brought in to give relevant information to staff as well as to help implement new ideas. Time needs to be spent wisely, carefully constructed, and purposefully directed in order for professional development to be effective. Follow-up is necessary when staff members are beginning to adjust to the new ideas. Activities in professional development must be appropriate for the content and the specific staff and focused on what they teach and how students learn it. Content of professional development should focus on teachers' knowledge of pedagogy.

Burke (2013) studied experiential professional development in a high school language program. Experiential professional development involves a process of demonstration, observation, collaboration, fieldwork, and reflection in order to improve practice. As a result, Burke found that professional development in her study was effective and long-lasting because it created a collaborative community within the staff that was not there before the study began. The teachers provided each other with help and feedback during the reflection phase of the professional development and participated in meetings. Teachers were also encouraged to include student feedback. In addition to collaboration with others, coaches came in to coach on-site for the duration of the research. This outside help was another way for the teachers to get feedback on their practices with the program and provided the teachers with the support they needed. Finally, the teachers found the professional development was practical and motivating. They found they could easily apply what they had learned on a daily basis.

A study conducted by Sandholtz and Ringstaff (2016) examined the contextual factors surrounding five California public schools that affected the staff's ability to implement and sustain a science curriculum in grades K-2. The participants all completed the same 3-year

science professional development program which was designed to help teachers in rural districts. The teachers came from different schools and the researchers interviewed them to find out what has helped them sustain what they had learned in the professional development program in their schools. A few common themes about how context plays a big role in sustaining professional development arose from the interviews of participants teaching in different areas. Support from administration was important. Teachers who felt like they had no support from their principals or teachers who came from schools where the principals changed often said they had a more difficult time sustaining the science curriculum they had learned. However, teachers who came from schools with more supportive principals reported more success at using the science model. Another factor that the teachers reported as important was resources. Many teachers in the study who came from lower-income schools felt they did not have enough resources to adequately expose their students to the material. Other teachers felt that follow-up professional development would have helped them sustain the science model because it would provide them with that collaborative piece they felt they were missing within their schools since the participants in the original 3-year professional development program were from other schools. For most of the teachers in this study, time was a factor they deemed important, most of them saying that there was not enough time.

CREDE in Early Childhood Education

Yamauchi (2002) cited a preschool classroom on the Big Island of Hawai'i as a success story of CREDE in early childhood education. The educator, Sheri Galarza, was an outstanding preschool educator who was also a CREDE consultant. She used developmentally appropriate activities from the Hawaiian culture and language in her classroom such as singing Hawaiian

songs and reading Hawaiian stories. In addition to those cultural values, she structured her classroom around the CREDE standards, using small groups and cooperative play.

Most of the published studies of the CREDE standards at the early childhood level have focused on preschools in Hawai'i. Goh, Yamauchi, and Ratliffe (2012) examined the implementation and effects of Instructional Conversations between teacher and student at the Children's Center. They suggested that the SPC was not an appropriate measure of Instructional Conversation in early education settings. Given that many young children have limited verbal skills and communicate both verbally and non-verbally. The authors concluded that Instructional Conversation needed to be assessed differently with preschoolers compared to older learners.

Yamauchi, Im, and Schonleber (2012) developed the CREDE ECE-7 which was used to measure the use of the CREDE standards in early childhood education settings. The CREDE ECE-7 was developed with early childhood educators based on the SPC which is used to measure the use of CREDE standards in K-12 settings (Doherty, Hilberg, Epaloose, & Tharp, 2002).

Tran and Yamauchi (2015) examined the Standard of Child-Directed Activity at the Children's Center. They argued that child-directed activity in preschools have many benefits including the development of problem-solving and self-regulation skills, confidence, and social skills.

CREDE at University of Hawai'i at Mānoa's Children's Center

The current study focused on the use of the CREDE Standards at the University of Hawai'i at Mānoa Children's Center. Hawai'i is a very diverse state, and this multicultural context is reflected in its classrooms. According to 2015 census data, 42.4% of children under 5 in the State of Hawai'i identified as two or more ethnicities (US Census Bureau, 2015). An

additional 11.0% identified as belonging to a Native ethnicity (e.g. Native Alaskan, Native Hawaiian, Native American). The other 46.6% identified as solely White, Black, Asian, or American.

The CREDE standards were originally developed based on research conducted on learners in grades K-12. However, Yamauchi and the Children's Center staff collaborated to adapt the standards to be more developmentally appropriate for young learners, ages two through five, thus creating the CREDE Standards for Effective Pedagogy adapted for Early Childhood (Yamauchi et al., 2012). Soon after, they began the process of implementing the standards at the Center.

Although CREDE-specific language was not used until after the introduction of the Standards, according to Soga, Yamauchi, and Au's (2017) study on organizational identity at the Children's Center, the staff and parent handbooks before the CREDE implementation contained CREDE-like ideas and concepts for teaching. For example, the handbooks contained descriptions of effective teaching that mirrored the CREDE Standards. Although the initial implementation of CREDE began in 2007, it is only in recent years that CREDE became more of an integral part of the Children's Center's identity as indicated by the increasingly frequent mentions of CREDE in the more recent handbooks.

The Children's Center currently uses a variety of teaching strategies including relationship-based learning which is based in part on Tharp's (1997) research (UHMCC Family Handbook 2016). The UHMCC family handbook describes the Children's Center as "a demonstration site for universal teaching practices identified and maintained by the Center for Research on Education Diversity & Excellence (CREDE)" (UHMCC Family Handbook 2016). As a result, they created their "Braided Curriculum" which consists of ten "strands" of important

values to the Children's Center curriculum. These strands are child-guided activities, family, community, global cultures, Hawaiian culture, ahupua'a (connection between the way we live and the resources), wellness, creative arts, literacy, and inquiry (UHMCC Family Handbook, 2016). I would like to know how instruction at the Children's Center has changed throughout the years because of its ties to CREDE.

Methods

Setting

For this study, my research questions were (a) how has the staff been able to sustain the CREDE model implementation across staff changes, and (b) what are the experiences of preschool educators who teach at a CREDE preschool like. In order to answer these questions, I conducted my research as a qualitative case study at the University of Hawai'i (UH) at Mānoa Children's Center which is a preschool that services the culturally diverse children of UH Mānoa faculty and students (Yamauchi et al., 2012). At the time of this study, the Children's Center had a main campus on the university campus and two satellite schools located at Kuhio and Noelani Elementary Schools. The children who attended were between the ages of 2 and 5 years old. Upon enrollment, parents were asked to indicate with which culture(s) their family identified with. In 2016, 61 unique identifiers were listed, with the most common ones being American, Japanese, Hawaiian, Chinese, and Korean (UHMCC Annual Report 2016). Many of the children at the school were multilingual. Forty percent of students at the Children's Center spoke a language other than English. Parents identified 33 languages that were spoken in the children's homes.

It had been 10 years since the initial implementation of the CREDE Standards at the Children's Center. Only about half of the staff members who participated in its origination were

still teaching at the Children's Center. The other half of the teachers began their employment some time in the last ten years and had varying levels of experience at the school and with CREDE.

I chose to conduct a case study at the Children's Center because it was a preschool that was unique because of its incorporation of the CREDE Standards into its curriculum. Prior to its use at the Children's Center, CREDE had mainly been documented in K-12 classrooms. As I mentioned previously, much of the success that other schools have had with the CREDE Standards stemmed from constant evaluation and alteration of their programs based on feedback from teachers and staff. Since the Children's Center had been using the CREDE model for 10 years, I wanted to learn how the CREDE model at the Children's Center has changed over time and how it has been sustained throughout the years.

Participants

In order to get a full picture of the Children's Center, I focused on the full-time staff at the school. There were about 20 full-time staff members. Although many student assistants and interns worked at the school at any given time, my focus was the full-time staff. The staff had varying levels of experience at the school and with the CREDE standards in general. Eight staff members had been with the Children's Center for 10 or more years, or since before the beginnings of CREDE at the school. Four had been with the school for six to nine years, six staff members for three to five years, and two staff members had been there for less than three years (UHMCC Annual Report). I wanted to study the experiences of the teachers who varied in their experience and CREDE.

I invited all the staff members of the Children's Center to participate in my study at a staff meeting. I presented my study and distributed consent forms at the meeting. The consent

form described the nature and purpose of this study and ensured the privacy of all participants. The participants were able to choose which part of the research process they consented to (i.e., observations, interviews, or both). Ten educators at the Children's Center agreed to participate. See Table 1 for information on their ages, ethnicity, and number of years at the Children's Center. Participation was completely voluntary, and all participants could decline the invitation or leave the study at any time after they had accepted.

Table 1
Participant Information

Name	Age	Ethnicity	Position	Years at the Children's Center
Lani	53	Caucasian	Director	12
Jeff	57	European American	Education Coordinator	10
Michael	32	Haole, Filipino, Local Hawaiian	Teacher	4
Marie	23	Caucasian, Irish, Scottish	Teacher	0.5
Jennifer			Teacher	13
Anna	37	Japanese American, local from Hawai'i	Resource Teacher	9
Julie	30	Mexican-American, Black	Teacher	4.5
Mark	42	Latino, Mexican	Teacher	4
Kim	31	Okinawan	Teacher	8
Angela	41	Local Hawai'i Caucasian	Teacher	5

Note: Some names have been changed, and ethnicities were self-reported by the staff members

Data Sources

For this case study, I used a written survey, current interviews, and observations of the staff as my primary sources of information.

Structured survey. All participants completed a short survey at the time of signing their consent form to solicit demographic information (See Appendix A). The written survey allowed me to learn more about the staff members, as well as ensure that I had a representative sample.

Observations. My second data source was my observations in the preschool classrooms. On the written surveys, I asked the educators to list some days and times that would be good for me to observe their classrooms. The educators taught in pairs in their classroom, and in most cases, when both teachers consented, I observed both teachers simultaneously to understand the classroom as a whole. In observations where only one teacher consented, I only observed that teacher and what he or she was doing with the children. The observations lasted for one hour each, and most of them were conducted in the morning, as that was the time when most educators indicated I would be able to observe the most CREDE-related activities.

I used my observation sheet to take note of the CREDE aspects of what the educators did throughout the hour I observed. The sheet is divided into five-minute intervals. If I was observing two teachers in a classroom at once, I used the teacher's first initial to mark when I saw or heard them using a CREDE Standard in the appropriate time box. If I was observing just one teacher, I used x's to mark the boxes. I used the Notes section of the sheet to take down direct quotations of dialogue between the teacher and child that demonstrated a CREDE Standard as well as write down any questions I have that would be good to ask in my interviews with those specific educators.

In order to prepare for my observations, I reviewed the rubric that was used to assess the educators' use of each standard in the classroom. This rubric describes criteria for the different proficiency levels of each standard. With these criteria in mind, I observed the educators' actions and listened to what they said to the children, and thought about the standards that fit these interactions.

I observed the teachers' classrooms for three reasons to (a) observe the influence of the CREDE standards in the classroom environment, (b) increase my understanding of the classroom

activities, and (c) supplement my knowledge of the school as a whole. I observed the teachers' interactions with their students and made note of the uses of the CREDE Standards using a data sheet I created (see Appendix B). I scheduled these observations through the school's Educational Coordinator based on the days and times the educators listed on the written survey form.

Semi-structured interviews. I interviewed participants about their experiences at the school and CREDE and regarding how those experiences at the Children's Center differed from other teaching experiences they might have had. The interview questions were open-ended, but some additional prompting and questions were necessary to clarify their responses and also to fully understand the depth of the teachers' experiences. A basic guideline of the questions are listed in Appendix C. Not every teacher was asked the same questions as they had varying levels of experience at the Children's Center and varying ages of students. I also included questions based on what I had observed in the different classrooms. For example, in one classroom I observed, the teachers were leading the children in an activity to make Chinese noodles. So for those educators, I asked more questions related to that specific activity.

For the teachers to feel more comfortable with the process, I emailed them to allow them to choose a time and location in which to do the interview. However, I found that it was more difficult for the teachers to choose their own time to be interviewed due to the need to have adequate coverage, so again, I asked the Education Coordinator to help me schedule interviews. Interviews lasted ~30-50 minutes and were audio recorded. I then transcribed the interviews for analysis.

Data Analysis

My research resulted in data of two different forms: interview transcripts and observation notes. The first thing I did was read each of my transcripts more than once to get a general picture of what each interviewee said. I used those general pictures from each participant to get a better understanding and create a bigger picture of the use of CREDE at the school as a whole.

As I read through the transcripts, ideas started to emerge and reoccur. I developed codes for each idea and used NVivo to code them in each transcript (Corbin & Strauss, 2015). I did not begin this coding process with any preconceived codes. Instead, I let the codes and categories emerge from the data to reduce introducing any possible preconceived bias into my data analysis and results.

Once I had my list of codes, I looked for relationships between those codes in order to group them into common themes. I kept finding relationships and grouping the codes and ideas together until I found six large themes. The idea was to find a few over-arching umbrella themes that would encompass all of the data I collected so that I could accurately and completely describe the use of the CREDE standards at the Children's Center as a main idea.

I created my themes mainly based on the data I gathered from the interviews I conducted. However, after I had determined the themes, I considered the extent to which observational data would be relevant, and when this was the case, I incorporated the observational data into the narrative. For example, one of the subthemes that emerged from my data was coteaching which included partner teachers taking turns running Joint-Productive group activities while the other teacher supervised the rest of the class. I found that I had observation data from more than one class that supplemented what educators had said in their interviews about those particular classroom dynamics.

Role of the Researcher

I came into this project with preconceived ideas of the benefits of implementing the CREDE standards on the education of children. I believed that being able to incorporate standards for students at any level was a good thing and would benefit the students overall.

Although I did not work directly at or with the UH Mānoa Children's Center, I was a part-time teacher at an elementary school and have held various other positions in classroom settings. Because of my current and past positions, I probably tended to view the role of a teacher in a more positive light than others, which may have influenced how I took and analyzed my data since my data came from my interviews with teachers and observations in their classrooms.

At my current elementary school, there has been a push to transform classrooms into a small group, CREDE-based setting rather than whole group instruction. Although the school did not officially label this learning technique as CREDE, the concept is very similar, and the students seemed to like it better than whole class instruction. Also, I have been a student in classrooms that have been based on a CREDE type of learning structure and found them more engaging than lecture-based instruction. My personal experiences with CREDE-type classrooms may have also created a positive bias towards the use of CREDE standards.

In addition to my own position as a researcher, the influence of my advisor may have also affected the way I analyzed my data. My advisor was the researcher who helped the educators at the Children's Center develop their interpretation of the CREDE model. Many of the teachers I interviewed mentioned her in some capacity. She had a strong personal connection to the school as well as the educators themselves that has lasted for over ten years. Therefore, her strong positive bias of the preschool, its staff, and the CREDE standards may have presented itself through me and my study.

In order to guard against these potential biases, I attempted to take many steps throughout the research process to reduce subjectivity. Before I started collecting data through interviews, I had classmates review my questions to see if they are leading in any way before I spoke with anyone. I purposefully looked for examples contrary to my own beliefs when conducting my research and especially when analyzing the data. I also reviewed the data many times to make sure I included as little bias as possible. As I mentioned in my Data Analysis section, I let the themes emerge from the data through my read-throughs of the transcripts rather than read the transcripts with categories in mind.

Results

Through my data analysis process, I came up with six themes. All of the themes were related to my first research question by giving me a picture of CREDE use at the school as a whole. However, some of them related more closely to my second research question by explaining how the Children's Center has been able to sustain its use of the CREDE standards in its practices through the years. The first three themes gave me a better idea of what the school as a whole was like. They are the curriculum, the student-centered aspect of the school, and the surrounding community.

Curriculum

The Children's Center's curriculum is made up of many different parts. First of all, the curriculum is a play-based curriculum in which the children learn about their environment and concepts through play and activities. The Children's Center follows a braided curriculum of its own design that includes many different aspects of teaching and learning. Also included in the curriculum is the CREDE standards. The following is a table of the CREDE Standards, how many times I observed the staff using them, and some examples of how I saw it in use.

Throughout my results, the CREDE Standards appeared through the words of the staff members, and I indicated where those standards came up.

Table 2
Observed Frequency of CREDE Standards

Standard	How many staff members used it?	How many times was it observed total?	Examples
Joint Productive Activity (JPA)	4	25	Noodle making with a group of students Completing a puzzle with a group of students
Language and Literacy Development (LLD)	8	51	"What does borrowing mean?" "We need to take it back" "Step back because oil tends to splatter. Do you know what splatter means? Splash."
Contextualization (CTX)	7	26	"Did you make an airplane at home? Out of what? Did you color it? With what?" "Have you made noodles with mom and dad?"
Complex Thinking (CT)	8	49	"What's going to happen to the noodles?" "Why do we give the lion money in a lion dance? What if you don't have money?"
Instructional Conversation (IC)	3	4	Royce let the students talk about the noodle process Alyson led circle time with a talk about different cultures
Modeling (M)	5	34	"Ask him, 'Can I work on the puzzle with you?'" Jeff modeled how to use a dust pan for a student who was trying to clean
Child-Directed Activity (CDA)	7	9	Posters of votes for different things all over the classroom Children were free to choose what activity they wanted to participate in

All of the educators I interviewed mentioned the curricular flexibility. That flexibility came in many forms whether it was trying new things with the students, taking the lesson in different directions, or logistics with timing and the schedule. When I observed Mark's class, they were not in their normal space, so he said to me, "We're not normally here, so we're just going to see what resources we have here and see where the day takes us" which demonstrated the flexibility of the students, the staff, and the schedule. Many teachers felt that the curriculum was very free flowing. Mark said,

It's really going to come from the children, how the day progresses. But, there is somewhat of a framework that we're working in...so we're not just too much all over the place, but there's room to be fluid....If something goes over in time, or something goes under in time, um, we are fine with that. [...] I feel that if it runs over, then, there's a reason that we're running over because there's more questions to be answered, there's more inquisitiveness. But if...we're running behind...we have finished way early, then I feel like, okay maybe the approach could be different.

Mark was describing aspects of the Children's Center that were guided by the CREDE Standard Child-Directed Activity. The students guide where the day is going to go and where the activity is going to go. Other teachers agreed that they were very flexible with the time and the schedule allowed for activities to run long or that they could cut them short if there was low interest. Some even said that projects could span over the week.

Each class had a broad unit of study for the different semesters, but within that larger unit, the teachers had the flexibility to decide how to approach it and what activities to do that would fit into it. If the children wanted to take the project in a completely different direction, the educators went with it. For example, when I observed Kim's class, they were painting cardboard

boxes white to prepare them to be painted into airplanes later. Kim described the units her class was working on this year and how the activity I observed in her class fit into it.

So, our unit for this spring semester, well for the whole year, is basically who we are as Anuenue. So, in the fall semester, it starts off with the individual...and then in the spring semester, about more community members. So we looked at the different job interests. So the airplane fit in. One of our kids wanted to be a pilot, so that part was how we worked in the child's interest of being a pilot. And later on that week, we had a pilot come in to talk to us about it. So each child got to choose what job they kind of wanted to look more into. So we based our specific units within that bigger unit on their interests.

The educators also mentioned that everything they did at the Children's Center was highly open-ended. There could be a plan in place for the day, but if something took it in a completely different direction, the teachers were open to it. Angela put it best when she said,

We don't follow a curriculum, we kind of write our own...and a lot of that has to do with the fact that there's so much autonomy and so much open-ended nature as to where we take our activities and our own lesson plans. Like, we don't, we're not tied to anything.

She and other educators said they also utilize open-ended questions with the students to get them to think more deeply about concepts and ideas, which related back to the CREDE Standard of Complex Thinking. When I observed the different classrooms, many staff members were constantly asking students questions like "What do you think will happen if you keep leaving toys around?" "What's going to happen to the noodles when we put them in the boiling water?" They were trying to encourage their children to think.

A few teachers mentioned the idea of the Three Guidelines of the School which are "take care of ourselves, take care of each other, and take care of this place." The educators taught the

guidelines to children as soon as they start in the two-year-old class. As the students got older, they began to better understand what those guidelines mean, and they began to understand how and why they need to take care of themselves, their friends, and their school, which then allowed the teachers to give them more freedom. Kim described this process in terms of her own class.

The first part [of the year] was again just understanding those three simple guidelines about you know, we wouldn't be able to do like this hammering and the nails with real hammers if we didn't first talk about being safe with, doing it. So it all led up to this community building and being able to actually go on adventures, you know, setting up the expectations in the beginning....they're constantly hearing the guidelines, even at the twos, but now...with their development, now actually understanding why not to bite, why not to hit.

Those guidelines applied not only to the children but also to the staff as well because the whole school operated under those three guidelines.

Child-Centered Approach

Everything at the school was centered around the individual children. Multiple teachers cited the school's missions to build relationships with the children. Anna said, "Yeah, relationships is like a huge part of our goals and to encourage the children, to encourage their interests in learning and kind of insight into the world." I observed that instead of referring to their teachers with their last names, the children at the Children's Center call their teachers Aunty or Uncle, and the children refer to their classmates as their friends, which demonstrates the familial relationship the staff strives to have within their classrooms. Mark and Michael agreed that building relationships with the children came from listening to what the students had to say to both learn about their interests and gauge their level of understanding. This type of

interaction could stem from the CREDE Standard of Instructional Conversation. Some educators mentioned that remembering things students talked about and bringing those things up again and into the activities showed the child that the adults were listening and what they had to say mattered, which was another way of demonstrating Child-Directed Activity. The staff wanted the children to feel included and important. Not only was listening important, but also having a dialogue with the children. Many of the educators spoke about using dialogue in different ways. Jennifer described the different developmental levels of her children and how having dialogues with them can allow her to assess where their developments are. She said,

Even in a conversation, you can learn so much from the child, you know, when you're talking to them. Oh, is the question in proper word order? Is it...a full sentence? Is it just simple sentences, you know, things like that, so I say even in a conversation, you're learning, you're assessing these kids all the time.... If they're asking me questions...oh yeah...she understands, it's in proper word order, wow, she can...ask a question, it's a full sentence....So it's always in my mind...whenever I talk to the kids.

The ideas that Jennifer brought up in her explanation of dialogue related back to the Standard of Instructional Conversation in her class. As I observed her class playing with toys during free time, I observed her asking them questions and engaging them in that type of dialogue.

In addition to being centered around relationships, the Children's Center used a play-based learning approach. I observed that the environment in the classrooms allowed the children to explore different interests and learn by playing with the different things in their environment. There were centers in each classroom such as a dramatic play center, a block center, and an art center, and the children chose which center they wanted to play in. The educators also designed activities with this play-based approach in mind. In order to create those activities, the educators

took the interests of the children into account. Finding those interests went back to the idea of listening, and some teachers even polled their class for opinions and ideas. For example, in talking about her class's activity to paint a box as an airplane, Kim said,

After we prepped the, the box white, then we took a vote of what color we actually wanted. So each child again, getting everybody's involvement, like that joint productive activity part of it. So we decided on different colors we wanted to vote for first. And then, each child got a chance to vote and one of the suggestions that won was rainbow color.

So the next day, we did the rainbow color painting.

Within the broader units of study, the teachers used the children's ideas and interests to design their daily activities. These activities could sometimes run longer than a day and even continue on through weeks. Not only are the students interests important when choosing an activity, but the staff also takes the children's cultural backgrounds into account, which for some students, was a form of Contextualizing the new material for the child to learn. For example, Julie's class made Chinese noodles when I observed her classroom, and when I asked her how she and her co-teacher came up with that activity, she said,

So for that one as an example, what was happening around us, right, was that Chinese New Year was the time of year. And typically we're not like an annual calendar kind of class where it's like "Oh it's February so we're going to do Valentine's Day" or "Oh it's this, we're going to do that" but from time to time, these kind of global events happen and we have students in our classroom who it's important to....So still connected to the overall theme of Chinese New Year's, we kind of do that with everything, where we look at the kids just their background as well as personal, like you know, their interests, stuff they're talking about or things that they're playing."

These activities were almost always hands-on so that the children could experience doing them. In addition, the groups of children working on one activity at a time was usually kept small to allow for more individualized experiences.

While there was an activity running, the children always had the freedom to choose what they want to do in the classroom, whether it was participating in the project or playing in one of the available classroom centers. The staff tried to encourage the children to try the activity if it was something new, but in the end, the children could choose what they wanted to do. To support that idea, Marie said,

So whether it be a teacher-led activity or the materials that are out in the room, besides our very few transitions from like indoors to outdoors or outdoors to indoors at lunch, they pretty much have the time that they need to explore those things, and it's not required of any child to participate in one set activity or to not participate in one set activity.

In addition to that freedom, the staff trusted the children to individually explore their environment. Again, that trust stemmed from the three guidelines of the curriculum. Angela described this trust as risk-taking both on the students' part and the staff's part,

Another [way the Children's Center is unique] would probably be our approach to risk, appropriate risk that we create environments that the children can challenge themselves, not just physically but cognitively as well. So there's not a lot of boxes placed on what children are capable of, it's very much know your children, know the individual children, and provide experiences for each child.

Community

The data analysis suggested that the community surrounding the Children's Center influenced how the school operated. Community for these purposes will be defined as the environment surrounding the Children's Center, which includes both people and resources. Some of the teachers talked about the openness of the school. Julie described that, "we have an open door policy which is school-wide. But my partner and I are really big on that and letting the parents come whenever, letting them drop in." Marie also agreed that the school was very open when she talked about her first experiences with the Children's Center, and Jennifer mentioned how family-friendly the environment was. I observed in Kim's class in the morning during drop-off time, and many parents chose to stay in the class with their children for a little while before leaving.

The educators I interviewed all mentioned different resources outside of the Children's Center that have been crucial. The Children's Center, as I mentioned, was part of the University of Hawai'i at Mānoa. This connection to the University was very important to the Children's Center. Educators at the Children's Center had opportunities to go back to school and take classes, and a few of the participants I interviewed took advantage of that. In addition, the staff had access to professors at the University whom they could approach with questions about curriculum or CREDE. Julie said, "we're lucky that we can kind of use our resources....so we can have Lois [Yamauchi] come in or somebody come in if we have a question."

The location of the Children's Center and its satellite classrooms influenced the staff's access to resources. The main campus, or the Big House, was located across the street from the main campus of the University of Hawai'i at Mānoa, and children took walking trips to campus for various experiences. While the satellite classrooms are close to the University as well, they

were not within walking distance. However, they had different resources. The staff of the satellite classrooms adapted to and utilized what was available around them. For example, Mark, who worked at one of the satellite campuses, mentioned a walking trip they planned to take to the Hawai'i Humane Society. Teachers at the different locations took advantage of what their locations afforded, and if they did not have something they needed in their space, they felt free to ask for it. Mark described the difference between the Big House and his satellite for me.

The thing is, I, I feel like there came a point where we tried to mimic the Big House, but I also realized that we can't. You know, because the energy there is very different. So we have to create...a physical space that gives us a lot of action.... because we're pretty flat in our place-based. I mean, we saw that we needed something, so we asked for the dome. We saw that we needed something so we asked for the little playhouse. The kids needed more because with the DOE, we're a little more restricted as far as the times when we can go play....So basically the physical environment has been the biggest difference between us and the Big House....And I guess I would have to say the noise level. The level of the energy level here is much more calmer....we can come in and out....I really find that the satellites have, if there is an advantage from not being at the Big House where the epicenter stuff [is], that one of the advantages is I feel like you get to build a different type of relationship with the kids.

The parents of the children were also a large part of the community surrounding the Children's Center. The staff communicated often with parents, and the parents were very supportive of the school as well. Since the parents are students or staff of UH Mānoa, the university becomes a resources as well. Jeff gave me an example.

We have resources of parents all connected to the university for some reason or another. Because of that, they have connections in different departments, so when we want to know something about the ocean, we ask a parent who is attached to that department, and then we do walking trips over there.

Not only were parents related to the university important resources, but also parents who were working elsewhere too. Kim told me that she and her classroom partner reached out to parents to see if they had any resources to bring in for the children related to the different careers they were exploring for their unit on jobs.

Cultural resources were also valued as well. Julie described their Chinese New Year celebration for me. It involved bringing the satellite classes to the Big House to watch a traditional Chinese lion dance.

Chinese New Year is one of them. So we have a few Chinese families that that's really important to their family so it's something that we look at in general [what is] personally relevant to the kids, so cultural traditions are from their families and things like that. And this year, we were fortunate that one of our kids' parents is actually part of a lion dance troop so again, Chinese New Year was a big deal....and we've found that by doing that, keeping it personally relevant to us, the children, and the families, we get so much more participation from their families too.

Anna also mentioned that the community of parents is very diverse with a lot of international families. She said that the Children's Center community is a way for those families to connect with and form friendships with other families.

Mark mentioned that one of his interns taught the children a hula lesson. Interns were also a part of the community as they are related to UH Mānoa as well. The educators worked

with the interns to help them understand the curriculum. Angela told me that having good interns who were interested in learning provided her with opportunities to share. She said she thinks interns helped her to sustain her practices because

Being their mentor [...] is a huge thing and I don't take it lightly. So I think because I take that so seriously, I think having that model of dialogue with someone about what they're seeing me do in the classroom through CREDE has helped me with that....That's such a good opportunity for me to talk about the things I know and put words to it.

Others shared similar thoughts. Many agreed that having interns in the classroom was helpful not only for them to practice talking about and teaching the curriculum, but also to interact with and learn from as well. Michael, in particular, found this interaction interesting. "Yeah, but it's fun because we get to talk to other people...we talk to a lot of interns and stuff, you know, you just get to see a lot of different perspectives and um be introduced to different styles of teaching and stuff."

CREDE Provides Labels

Throughout my study, I found evidence that the staff had a pretty good understanding of the CREDE Standards. For example, in my structured survey, I asked the educators to indicate how proficient they were in using the different CREDE Standards, on a scale of 1 to 5. While not many rated themselves with all fives, most ratings were threes or higher, and none of the standards stood out as being rated consistently higher or lower than the others. This contrasts what I observed in the classrooms. As indicated in Table 2, I observed the educators using Instructional Conversation and Child-Directed Activity the least, while they appeared to use Language and Literacy Development and Complex Thinking the most frequently. This does not necessarily mean that those standards were being used more or less because some standards lend

themselves to observation more so than others do. I also only observed for a limited amount of time, and the standards may be used more or less frequently at other times of the day.

In addition to the relatively high self-ratings, in my observations of the educators, I saw and took note of many examples of the CREDE standards in every participant's instruction. These two factors combined led me to believe that each educator would be able to list the standards and describe specifically how they used each one. However, as I was interviewing my participants, some of the educators who had been with the Children's Center for less than five years told me honestly that they were not very familiar with CREDE and could not recall the individual standards. When I asked a question about the CREDE Standards in practice, one educator replied,

To be perfectly honest, I'm not super familiar with the CREDE terminology....Since I've been here, we haven't had real concrete CREDE training, but I'm familiar with certain things, you know it's all, just the terminology that I have trouble putting into, or trouble remembering what it is.

Even some of the more experienced staff members admitted they could have used a refresher on CREDE. One had said, "if you tested me on like what's number one, like, I would need a refresher course, but basically we do it, you know, like naturally."

Many of the other staff members who had been at the Children's Center for longer than five years shared that sentiment that CREDE was natural for them even without the formal professional development in it. For example, Angela said,

It kind of comes and goes. Yeah, I think, I think that's an accurate way to put it. So when I first started, it was definitely, we were part of Lois's research, and then she kind of moved on from that, um, and then brought it back around again and it was more of a

choice. [...] I feel like we've done all these different phases with CREDE. You know, like, it's definitely a part of how we think and how we interact with children and how we plan, um, it's just not as formal as it was when we were actually doing research with Lois or she was doing research on us, like it just got less and less formal.

All of the staff members I interviewed had heard of the CREDE Standards, but many of them did not have that the familiarity. This was not what I had anticipated. After my observations, I thought all the staff members would have knowledge of CREDE since I saw so many CREDE aspects in their classrooms. All participants of varying levels of experience at the Children's Center clearly used similar language and techniques when teaching whether or not they were familiar with the CREDE standards.

Through my research, I found that the CREDE standards provided labels for what the staff members were doing. The participants who did not have a lot of CREDE background could explain to me what they were doing, and it would fit right in with CREDE, but they just did not have the CREDE label for it in their vocabulary. I asked Jennifer, who has been at the Children's Center since before CREDE was implemented, how things had changed after the initial implementation. She said,

For me, I think the only difference was just I kind of knew we [used the CREDE Standards] anyways, but it was mainly just having the words to explain it...but I think it was too, it helped us to explain to parents sometimes when we were talking to them about...what we were doing. And why we were doing it. I think it kind of helped...to give me the words to use. You know when talking to parents and things like that.

Some of the educators who were familiar with CREDE used the CREDE-specific language with each other. Angela, who came to the Children's Center having participated in formal CREDE professional development while she was at another school, said,

I don't necessarily feel like we use that language still as a staff because there's so many new people but when I talk with people who were a part of the CREDE process when [we were more actively engaged in CREDE professional development], we do use the, that language with each other from time to time.

Another thing I found was that the educators who had participated in the formal CREDE professional development said that having the CREDE labels for what they were doing helped to bring the standards to the forefront of their minds when planning activities. For example, when she first began working at the Children's Center, Julie participated in a form of formal CREDE professional development in which she logged the activities she did with the children. After the activity was over, she would go back to her description of the activity and check off the CREDE aspects that fit what she had done. She said this retrospective view of CREDE helped her be able to think ahead and intentionally plan to incorporate the Standards into her activities, "So being able to say yeah I'm using [the CREDE] framework, but doing that [while planning the activity] as opposed to like looking at it after....Just actually being able to think in that kind of a [CREDE] mindset in planning and then executing."

Jeff, the Education Coordinator of the Children's Center had explained that because CREDE permeated activity at the Children's Center, even if the newer teachers could not identify the elements by their CREDE names, they still learned about them and used the CREDE model. He said,

Because the CREDE practices have infused everything we do, [...] even if you weren't trained formally, you have training informally, and you may not know the words to use, you may not be able to think of it in explicit terms, but at least implicitly, you have all of that because of your experience with our faculty who have already internalized it.

The next two themes focus on how the Children's Center has been able to sustain its use of CREDE through the years. These themes are internal support and formal professional development.

Internal Support

The theme of internal support came up in all of my interviews. In the context of this study, I define internal support as help or aid from another person or group within the Children's Center. This included many forms of support from co-teachers, peers, and administrators and is not to be confused with the theme of Community which I defined as support from sources outside the school.

The most basic level of support came from those within the classroom. Educators at the Children's Center teach in pairs, and that co-teaching relationship is fundamental to how the Children's Center functions not just in terms of CREDE but also for classroom management. There were many benefits to co-teaching that my participants talked about. Julie described one instance when having two sets of eyes in the classroom is important.

So typically, when one teacher is doing a really focused small group activity...our joint productive activity, ... the other teacher tends to be the one that's kind of maintaining harmony within the rest of the classroom. So providing them support that way so that they can really focus on what they're doing.

Having the class set up like that allowed the educators running the activities to really direct their focus to the group that was working on the activities without having to worry about classroom management. That is something I observed in Julie's classroom. She was working with the students on their reflection journals as they came to school while her partner teacher, Michael was leading the Joint-Productive Activity of noodle-making. While Julie was working on the books, she was also actively keeping an eye on the children who were playing in the classroom centers to allow Michael to complete his activity. Others said the same thing, but in regards to being video-recorded and observed for professional development. Lani, the school director, summarized the co-teaching relationship from an administrative point of view.

The other part, I think with the...new people is that there's a lot of benefits for team teaching. Right, and so I think team teaching provides a lot of depth to a classroom....No teacher is as good as two teachers are with different personalities working together, but also, it's whenever possible, I try to pair a teacher who's been here and has more experience with our CREDE and our philosophy with a new teacher. I can't always do that, but as much as possible, when I can do that. And then, the teacher who has been here longer, they're not their boss, but they can be their guide, they can explain things. And...it's sort of forced match-making, you know, creating these relationships that are going to last over time, but when they click, it's because the new person has had enough of a viewpoint into how the program works because their partner teacher....Jeff and I are available to them, but who you work with day to day, day by day, who you do planning with, that's really the person who is going to give that to you the most.

Support from the co-teachers within the same classroom was important, but in addition to that, the support from the other educators at the Children's Center was crucial as well. Many

educators I interviewed alluded to the team mentality of the entire staff. The participants agreed that the staff were all very welcoming and willing to answer questions. Many participants mentioned going to more experienced teachers to ask questions. Michael, in particular, started at the Children's Center as a substitute, and because of that, he was able to work with many different people on the staff in many different classrooms. Of that experience, he said, "And here, I got to see so many different things and just asking people questions and hearing the vastly different answers, but still seeing the underlying ideas were still the same." The staff agreed that everyone at the Children's Center had a different way of doing things and teaching, and that diversity is welcomed. Marie said,

I think our whole school is webbed like a web of all these teachers that bring such passions to the table, and all of them are pretty different...All the things that our whole staff brings to the table to know we're such a, my thing is yoga, mindfulness, and meditation, and there's other people who are into so many other things, or there's people that are so connected with the Hawai`ian culture and they always see that welcomed here as well, and that just makes other families feel more welcome, even just cultures in general, like, it's, yeah. It's inspiring.

In addition to that direct help, all educators I interviewed mentioned watching other teachers' projects and lessons to help them with their own. Many teachers borrowed ideas from others for activities. Beyond activities, some teachers mentioned borrowing ideas for classroom management by watching how other teachers approached a situation and taking note of it for future reference. Kim described how observing other educators at the Children's Center was helpful in developing her teaching style. She got ideas by "observing other teachers, talking to other teachers and asking them for their opinions and see what may or might not work, you

know, and like I said, it may work with one, but doesn't necessarily work with another child and we're just constantly thinking of different ways to approach a problem."

My data suggested that being in a school where teachers worked together and used the same language helped to sustain the CREDE standards, even without the formal labels. Julie said,

Being surrounded by teachers that actively engage in this style of teaching makes it really easy to maintain that and grow with that and again ask questions when I'm stuck or confused or just you know need clarification. We have a lot of knowledgeable teachers here that we can just learn from.

In addition to coworker support, the teachers I interviewed described the assistance they received from the administrators of the Children's Center. Mark summarized the support he received from Jeff, the education coordinator, and Lani, the director.

I think one of the things that is, that is really helpful is having Jeff and Lani who are huge, a huge proponent of ours....I mean, they just give us a lot of support. They are constantly asking us...what we need, how can they be helpful, and I really think that part of it is being able to come into the classroom and make adjustments and changes based upon not only what you feel is the, the best course for the class but the support of them and your co-teacher is like super important.

Other teachers agreed that Jeff and Lani really believe in the positive influence of the CREDE Standards and the Children's Center, and that support goes a long way in inspiring the staff.

Michael also mentioned how the administrators support their professional development and find ways to make it work if a staff member wants to go back to school.

So you know, we're able to take classes at the university, you know, I took one at HCC, that was on, it was special ed. Working with integrated classrooms. [...] Lani is really supportive...if we want to do something, then she just tries to find a way to get us to do it.

Lani agreed with that on the administrative side of it too. She said,

All of the teachers have the opportunity, but most of the teachers take advantage of it somewhere along their career path to go back to school. Right, and so we guide them towards Ed Psych [the department that houses CREDE], we guide them towards, if you're going to do curriculum studies, create your own plan, that type of thing, finding your ways that you can better what it is you're interested in rather than just getting the credit. You know...go to school to learn what you want to learn...but it's [giving them] the time to go, and being able to give them pull out time...to get to their class, that type of thing...they assume rightly that the answer is "Yes, of course you can go, let me work out the mechanics of it." We sometimes have teachers who are like, "Oh can we take a class together?" And I'm like "Well, yeah, of course you can." So, so they hear a lot of yes's and they're not kicked in the butt to do it, but if they go, we're like yay! You can go!

Formal Professional Development

This theme describes how formal professional development has influenced educators in sustaining their use of the CREDE standards at the Children's Center. Professional development in this context is any type of formal training that the administration uses with the staff.

The first professional development that related to CREDE was the initial implementation of the standards at the Children's Center. Only two of my participants had been at the Children's

Center from before the initial implementation, but many of the staff members I interviewed had participated in that professional development when they were first starting. Jennifer described the initial implementation very well.

They met with us before they actually went into trying to do this CREDE. So they kind of met with us and then we had a meeting, they talked about the standards and what they were looking for and you know, like, just giving us a better explanation of each standard and so yeah, I mean, I had that rubric, and then so I was looking at it and was like okay so what activity would I want to do that would you know, look at all these standards. Which is almost every activity that we do here....Yeah, so they started videotaping and then writing out the lesson plans. Implementing that and then you meet with the coach after....And she tells you about the things that she saw, what was things you could work on, what was things that went really well, so doing the coaching right after that.

The teachers who participated in that initial implementation agreed that the process ended up being valuable to their understanding and use of the CREDE model. Anna mentioned that being video-recorded was uncomfortable for her, but she realized how important it was.

I mean it was good that we got the...DVD to take home and watch, I mean, even that, it's hard to just be motivated to watch yourself on video. But after like, kind of going through it and like getting feedback from, from your peers and seeing okay, this is what I hit and this is what I missed, that was, that was helpful.

She also mentioned that being video-recorded helped the staff to collaborate more and help each other with the process. Being able to collaborate with the professors at the University of Hawai'i in developing the standards for use in early childhood education was also very powerful for the staff as they felt they had a say. Jennifer described,

So I guess we [were] more a part of [the writing of the CREDE Standards for early childhood education], and the standards we want to see on there I guess....So as teachers, we wanted to see [certain things go into the Standards], and that was great for Lois, oh yeah, she wanted to see how, what we wanted in there. Because we're actually the teachers that are with these kids and if we wanted to change anything, you know, you can go and change it.

Having a say made the teachers feel like they were part of the research which was very powerful, since, as Jennifer stated, the teachers were the ones who worked with and taught the children, so they would know best how the standards would work for that age group.

Although the professional development that came with the initial implementation of CREDE was valuable to the staff members, it was difficult and costly to implement, which is why the Children's Center has not had a lot of CREDE-focused professional development in a while. Lani described what it took to put on a large CREDE professional development.

It comes down to time, sort of money, but mostly time. How are we going to get all of our annual training done, have a strong focus on the CREDE philosophy, how can I have time in the classroom with teachers to talk about what they are doing, how can I have time during the week, during the month, during the year, to reflect on our practices, to watch videos if they have them. We talked about coaching, so we have teachers here to coach each other, and it just comes down to how do we staff a program this big every day and then have extra time for extra staffing.

Because the Children's Center has not participated in a formal CREDE-focused professional development in a few years, it has been difficult to keep the CREDE-specific language and

training alive. Lani said she used to try to have an orientation with new teachers after the CREDE study.

When we would hire a new teacher, Wayne [the former director of the Children's Center] and I would try to do an orientation in it, but it was never as powerful when we were actively doing the research, when we were getting videotaped, when we were having the regular meetings with Lois, and when they were writing it, you know, working on it together. Once it was written, it wasn't a living document to the new people.

Having that relevance to the project made it more meaningful to the staff members who participated, and new teachers now do not find it as relevant, even though the CREDE standards are ingrained in everything they do at the Children's Center.

Current professional development at the Children's Center includes three all-day staff meetings, one in the fall before school starts in August, one in January before school resumes after winter break, and one in May before summer school starts (L. Au, personal communication, June 5, 2017). Marie described the nature of the all-day meetings,

It's before fall semester and right before spring semester, so it's when the kids aren't here. It's considered a work day. And pretty much, not only is it...team building...but it is like between like mandatory trainings and things that they have to go over administrative-wise. But it's never that we're just sitting there listening. It's always like group work, or you're rotating or you're paired up with different people.

In these training sessions, people who did not normally work together interacted. Lani said that Jeff purposefully assigned individuals to different groups. Sometimes for certain topics of small-group discussion, they needed to be with those with whom they often worked (e.g. partner teachers). At other times, he wanted the educators to interact with educators from different sites

or individuals who worked with different aged children who could give a different point of view on a specific discussion topic. This type of learning and working together through social interaction and collaboration has roots in sociocultural theory which is the basis for CREDE. The administration conducted professional development in small groups to model Joint Productive Activity. In addition to these longer meetings, the Children's Center staff met monthly on Fridays to cover routine things such as civil rights and food service information sessions as well as to bring up concerns and questions. Staff members also participated in conferences where they make presentations. Michael named a couple of the conferences and what they do at them.

Well we go to, we go to a few conferences every year. There's the HAEYC conference at the convention center, and then there's the Maui conference. We actually just went to that this past weekend....Like we only go to the Maui one if we present....The NAEYC conference, there's three or four of us that get to go every year, so we get to attend or present. So we do a lot of conferences, mostly local.

Lani also mentioned that she has the teachers participate in workshops as part of their professional development at the Children's Center.

A lot of the teachers do workshops. And when I say do workshops, they put it together. I don't write it for them, I don't edit it for them, but I do give them feedback on it when I see it, that type of thing. And often, what I'm finding is that they all include the UHMCC philosophy....So they're using that, but they're not saying the CREDE words.

This, again, relates back to my previous theme of CREDE providing the language for the teachers to describe what they are doing.

Discussion

This study focused on the Children's Center staff, their experiences in CREDE, and how they have been able to sustain their CREDE practices together as a staff. Although there are a few studies on CREDE in preschool environments, most research has been conducted at the elementary school level and higher. This study was unique in its focus on a long-term use of the CREDE Standards in a preschool.

Teacher Perceptions of CREDE

The results of my study aligned with the previous research on teacher's perceptions and use of CREDE in schools. In addition, many of the results of the studies I referenced focus on student achievement after being in a classroom that used the CREDE standards in practice. That measure is not appropriate in my study as I did not take data on student achievement. In this discussion, therefore, I will focus on the teacher aspect of using the CREDE standards. Although the focus of this research was different from the other studies I previously cited, I did find that the sentiments of the teachers I interviewed do mirror those of the participants in other studies. In this section, I describe how this study relates to previous research.

In the study conducted by Wyatt and Lyberth (2011), the entire staff of the preschool they studied learned and implemented Instructional Conversation techniques with the children so that they would have school-wide consistency. That kind of consistency is mirrored at the Children's Center. All staff is trained in CREDE and apply CREDE strategies. They also speak to the children and each other in a way that is consistent with CREDE to have that consistency. The teachers in Wyatt and Lyberth's study collaborated to create their adaptation of the CREDE model which created a community of learners and a sense of ownership. Similarly, the teachers who had been at the Children's Center for formal CREDE professional development indicated

that being able to contribute their own ideas and opinions to the process of writing the Standards to fit early childhood education also resonated with the educators as they were a part of the research part of the original study.

Previous research suggested that teachers responded well to the collaborative and supportive aspect of the CREDE standards (e.g., Teemant, 2014). Similarly, all of the educators I interviewed mentioned collaboration and support in some capacity and said that having others to help was important when they first began at the Children's Center. The teachers who were more experienced in CREDE and had been at the school since the initial implementation at the Children's Center shared sentiments of going through the video-recording, documentation, and coaching experience together as a team which served not only to teach them about CREDE, but to bring them together as well.

Estrada (2005) found that teachers liked that the CREDE model gave them flexibility and time to reflect on their practices. These findings align with results of the current study in which the teachers at the Children's Center reported similar sentiments. The teachers reported that the CREDE standards afforded the much flexibility in developing their curricula. Estrada's participants felt that the CREDE model responded well to the teachers' needs.

Sociocultural Theoretical Framework

The results of this study were also consistent with Vygotsky's (1978) sociocultural theory, the theory on which the CREDE Standards are based. The teachers in this study mentioned that having a dialogue with the children is important to assess their development as well as guide them in their learning. However, the focus of this study is on the teachers of the Children's Center, I focused on how the educators learn. The theme of internal support from other educators and administrators within the Children's Center relates directly to sociocultural

theory. The participants of this study mentioned the support they received from more experienced others when they were new, which is how they were able to learn and develop their own style of teaching. Collaboration with others, for example at professional development meetings, allowed the teachers to work as a team and learn from each other's experiences as well. The teachers also reported this kind of teaching and learning interaction in working with their interns. Vygotsky also emphasized the importance of environment and culture in collaboration. He asserts that what surrounds people will have an effect on how they learn. The Children's Center focuses on place-based learning and its staff incorporates the cultures of the children and staff into their curriculum and activities. They frequently use the environment around them to explore the area, which, according to Vygotsky, should facilitate learning in the children.

Professional Development

The results of this study were also consistent with other studies regarding the importance of collaboration in professional development. Of the six factors of effective professional development that Guskey and Yoon (2009) identified (workshops, outside experts, time, follow-up, activities, and content), the Children's Center made use of all of them. The Children's Center frequently used workshops and outside experts in professional development. They were efficient in covering a range of topics with the time they had. The administration also tries to follow up with CREDE refreshers every year at one of the meetings. The groups are designed to promote activities, and the content of each professional development session appears to be relevant to the staff.

Sandholtz and Ringstaff (2016) found that teachers needed support from administration, availability of resources, and follow-up professional development in order to sustain changes in

teaching style and curriculum. The Children's Center demonstrated those three requirements well, as the administration was supportive of what the staff wanted which came through in the interviews. The educators also had support in terms of resources from both administration and parents, and as mentioned previously, the Children's Center holds frequent professional development meetings that serve as follow up.

One thing that came up in the results of the current study was the idea of collaboration playing a large role in sustaining professional development. In a study conducted by Butler, Lauscher, Jarvis-Selinger, and Beckingham (2004), the teachers of a school worked collaboratively to design and implement a new curriculum that followed the strategic concept learning approach. The teachers not only worked collaboratively with those within their own schools, but also with the researchers involved in the project and teachers from other schools who were also working towards a common goal. The researchers found that the teachers shifted their practices to comply with the strategic concept learning approach and that those shifts were meaningful. The students also benefitted from the teacher collaboration in this approach and experienced more academic success. The collaborative professional development aspect of this study mirrored that of the current study. The study by Butler et al. (2004) described an implementation process much like that of the CREDE Standards at the Children's Center and also included a follow up in the following year after the study. They found that teachers were able to continue their use of the strategic concept learning approach and they intended to keep doing so. After one year without the researchers, the teachers kept implementing the program they had learned. The participants in that study also said that having a community of people who are working in the same curriculum, not just in their school but in others as well, helped them sustain the program.

A study conducted by Whitehead (2010) focused on what has helped schools sustain the effects of a literacy program one year after implementation. He found that relationships between the teachers and the “change agents,” or people influencing the school-wide change, is crucial in sustainability of a program. According to Whitehead, this contributes to creating a continuity of leadership as well as development of a school culture. In the Children’s Center’s case, the UH Mānoa Educational Psychology department could be considered the change agents in the original implementation. The administrators of the Children’s Center bridged the gap between researchers and educators and facilitated that relationship. The relationship between the Children’s Center and the Educational Psychology department still exists today, which could contribute to the sustainability of the CREDE Standards. Whitehead also cites mentoring relationships and communication as other factors that make a program more sustainable. The open collaboration of the Children’s Center promotes mentorship of new staff as well as student assistants and interns, and provides the means for communication to happen between all staff and administration.

CREDE Professional Development

In context, the fact that the participants who had four or fewer years of experience at the Children’s Center had less formal knowledge of CREDE made sense. The original study and implementation started ten years ago in 2007 (Yamauchi et al., 2012). The grant lasted one year (Yamauchi, 2007-2008). Yamauchi was able to secure a second grant to do further research at the Children’s Center in 2011, and that lasted until 2014 (Yamauchi, 2011-2014). The educators who participated in either of those studies in any capacity, whether they were new to the school at the time or not, seemed to have a vastly better understanding of the CREDE standards. This is logical because they actively had to learn, think, and be conscious of how they were applying the

standards. Even educators who had not participated in any of the formal CREDE studies since the initial implementation still had a better formal understanding of the standards than the newer staff who did not participate in any formal CREDE studies. All staff members, however, had a practical understanding of the CREDE Standards whether or not they had the labels for it.

It seems that although the Children's Center did not emphasize CREDE as much as it did immediately after the initial implementation research, the CREDE standards underlay the curriculum and therefore affected everything. The staff members who were not familiar with the CREDE terminology still implemented and ran activities that incorporated all of the standards even without that formal CREDE training. This was significant because the school in itself seemed to be what was sustaining the use of CREDE in the staff. Having staff members and administrators who experienced the implementation of the CREDE Standards and who were knowledgeable about the theory and framework allowed newer staff members to pick up on and use the terminology and curriculum quickly.

Limitations

My role as the researcher may have affected the results of this study. My own perceptions of schools and teachers based on my position as a part-time teacher may have caused me to view my results more positively. In addition to my own opinions, the positive influence and opinion of my advisor on the Children's Center may also have manifested itself through me and my research.

In addition to my role as the researcher, there are other possible limitations to my study. Although many of my findings related back to the research, this study is a case study of one school in one specific location, and the findings may not be generalizable to all other situations. I observed and interviewed only half of the staff, and I may not have gotten an accurate whole

picture of the school with my limited sample. Participation was completely voluntary which may also have skewed the data towards people who have a more positive view of the school and its use of CREDE.

More limitations could come from the data collection and analysis. I did the data analysis by myself, which may have introduced my biases even though I tried to guard against them. I was also the only one who collected the observational data. Another observer might have noted and recorded interactions differently than I did. Conducting frequency counts in my observations may also not have accurately represented the extent to which the different standards were used because some standards do not lend themselves to being observed in this way. For example, it is difficult to observe Child-Directed Activity because I was not in contact with the educators before the observations, so I was not aware of how they chose the activities. Many teachers indicated in their interview that the children chose what kinds of activities they did in class, but I was not able to observe that. In addition, some standards overlapped and it was sometimes difficult to determine whether one should be counted and not the other, or if both should have been noted. For example, many educators modeled speech for the children by saying things like “Ask him, ‘Can I play with that?’” which could represent both Modeling as well as Language and Literacy Development.

Future research

Future researchers interested in this topic could go back to some of the other locations that have implemented the CREDE Standards in the past to conduct a follow-up on what their CREDE models look like, if they are still using the CREDE model. Having some comparison between the Children’s Center and other locations using the model would be helpful to see if the results could be generalized to some extent. Future research should also look further into how

professional development could be implemented to bring the CREDE back to the forefront of the staff's minds.

Conclusion

Ten years seems to be a long time to sustain the CREDE Standards in practice in early childhood education. Through this case study, I hoped to accurately describe and depict the University of Hawai'i at Mānoa Children's Center's use of the CREDE Standards for Effective Pedagogy. I hoped to be able to explain how the school has sustained its continued use of the standards and how the standards have changed and grown through the years. Through my research, I found that the Children's Center operates through its child-centered approach to learning, its community, its curriculum, and having CREDE to provide labels. The staff has been able to sustain its use of CREDE through support from others within the school and professional development. I hoped this study would give future researchers, administrators, or educators, in early childhood education or not, who are considering using the CREDE standards as a basis for their curricula insight into how such programs can be implemented, used and sustained over many years.

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Appendix A: Survey Questions

1. What is your name?
2. In what year were you born?
3. What culture(s) or ethnicity(ies) do you identify with?
4. How many years have you been teaching in Hawai'i?
5. How many years have you been teaching at the Children's Center?
6. What is your position at the Children's Center?
7. How comfortable are you in the use of the following standards? (1=Not comfortable, 5=Completely comfortable)

a. Joint Productive Activity	1	2	3	4	5
b. Language and Literacy Development	1	2	3	4	5
c. Contextualization	1	2	3	4	5
d. Complex Thinking	1	2	3	4	5
e. Instructional Conversation	1	2	3	4	5
f. Associative Modeling	1	2	3	4	5
g. Child-Directed Activity	1	2	3	4	5
8. When would be some good times for me to conduct observations in your class when I can see your use of the standards?
9. How may I contact you?

Appendix B: Observation Sheet

Date: _____		Time: _____					Class/age _____					Teacher: _____						
Activity:	0:05	0:10	0:15	0:20	0:25	0:30	0:35	0:40	0:45	0:50	0:55	1:00						
JPA																		
LID																		
CTX																		
CT																		
IC																		
M																		
CDA																		
Teacher/ Teacher interaction																		
Teacher/ Student interaction																		
Notes																		

Appendix C: Interview Questions

1. In your own words, describe the Children's Center's mission.
2. Describe how an average day in your classroom may differ from that of a different preschool classroom.
3. In what ways did the knowledge you bring to the Children's Center relate to the CREDE standards? Where did that knowledge come from?
4. What kinds of CREDE-related professional development did you do when you began working here?
5. What else helped you develop your use and understanding of the CREDE standards?
6. Which standards do you feel are the most effective for you? Least effective?
7. Which standards have you found easiest to use? Most difficult?
8. What kinds of barriers have you faced in implementing the CREDE standards or adjusting to the school?
9. What has helped you sustain your use of the CREDE practices?
10. How has your understanding and practice of CREDE changed over time?
11. (>10 years) Thinking back to when you first started using the CREDE model, how has your thinking about the model changed? How have your practices changed?
12. (>10 years) To what extent do you think CREDE has become more (or less) a part of the Children's Center than previously? In what ways?
13. In what ways is CREDE an integral part of the Children's Center? What indicates this?
14. What are your suggestions for how the staff as a whole can help new teachers learn about and use the CREDE model and assist other teachers to sustain their practices?