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Improving Mentoring of Early Childhood Education Students
in Oral Language and Vocabulary Skills

By

Karin Elisa Navarro

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Education

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Bruce Fuller, Chair

Professor Jill Duerr-Berrick

Professor Heinrich Mintrop

Fall 2017

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in Oral Language and Vocabulary Skills

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By

Karin Elisa Navarro

Abstract

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University of California, Berkeley

Professor Bruce Fuller, Chair

Pre-service teachers depend on hands-on training to acquire the necessary practical skills to effectively work in the classroom. This is especially true for pre-service teachers in Early Childhood Education (ECE), who often rely on mentoring programs to learn to successfully work with children and influence their developmental outcomes. This study used a theory of action and an intervention design to improve mentoring skills of senior teachers (mentors) to prepare pre-service teachers (mentees) to address children's oral language and vocabulary skill deficiencies.

The methodology combined Design Development and Action Research using multiple data collection points (e.g. third party observations, mentor's self-assessments, , mentee's assessments, and interviews) to ensure unbiased conclusions. The study implemented an intervention in a Child Development Center Lab School staffed with five senior teachers. The intervention consisted of a series of training sessions, lectures, analyses of videotaped pre-staged practices, reflective workshops, in-classroom practice sessions, and the development of a mentoring guideline. It focused on three major areas of mentoring: Relationship Building (RB), Instructional Support (IS), and Oral Language and Vocabulary Skills in Children (OL).

Improvements in RB were mainly driven by gains in mentors' ability to provide timely support. Mentors who showed improvement in RB also showed improvement in IS. Both videotaping and reflections proved to be very useful in helping mentors to solidify theoretical concepts through practical activities. However, mentor improvements in advanced ECE technical areas after building such mentoring foundation, as is the case of OL, seem to need a good number of opportunities to practice them before starting to produce positive results.

This study shows that good mentoring training requires pre-selecting participants by their top learning traits, that there is a domino effect in the way skills are built or developed, and that sufficient practice of the desired skills is indispensable. The effectiveness of the intervention also depends on mentors becoming aware of their role's potential, the quality of the classroom instruction they receive, the maturity of the mentor-

mentee relationship, and on the mentee's side, on their level of ECE experience and their mastery of the language of instruction.

Dedication

This period of my journey is dedicated to the people who have always believed in me, encouraged me to never stop becoming a better person, and invited me to open up to new ideas and knowledge. My most profound gratitude is to my husband Alejandro Erasso who has always been by my side supporting every step I take and giving me the confidence to persevere and accomplish my goals. The power of his unconditional support, love, and encouragement has made this accomplishment a reality.

I also want to thank my father Abel J. Navarro for enlightening me on the importance of higher education and how this not only benefits us but also provides the tools to benefit others in our society. My mother Lucy Mary Carpentieri was an inspirational model to me due to her own accomplishments and for being there for me and my family when I most needed her.

Finally, I want to thank my children Camilla and Sebastian for giving me the strength to continue to model for them the importance of becoming individuals who can contribute and advance the good of society.

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1.0 Introduction: Problem of Practice

Pre-service teachers depend on hands-on training to acquire the necessary practical skills to effectively work in the classroom. This is especially true for new teachers in Early Childhood Education (ECE), who often rely on mentoring programs to learn to successfully work with children and influence their developmental outcomes.¹

One of the most important skills that pre-service teachers need to acquire is the ability to identify children in preschool who show deficiencies in oral language and vocabulary skills and effectively work with the children who show these deficiencies. These skills are very important because they serve as a foundation of future reading comprehension ability. This is especially relevant to issues of equity since children of lower income populations are more likely to show reduced language abilities, such as the number of words that they are familiar with and that they use, in comparison to children from more affluent families (Adams, 1990; Snow et al., 1998). The problem of practice that this study intends to investigate is how to improve mentoring skills of MC CDC senior teachers to prepare pre-service teachers to effectively work with children showing deficiencies in oral language and vocabulary skills. As a result we expect to see more children acquiring foundational literacy skills. This intervention will center on engaging MC CDC senior teachers (as mentors) in practices that effectively develop these critical skills in their students (mentees).

1.1 Local Context of the Study

MC CDC is part of the West-Valley Mission Community College District in Santa Clara County, California. MC CDC currently serves approximately 100 families from the city of Santa Clara and its surroundings, with children ranging from infants to preschoolers. MC CDC welcomes families from a variety of cultural and socio-economic backgrounds including community college students and professionals from high technology firms.

Since MC CDC was built as a laboratory school to train new generations of early care and education providers, mentoring is “expected” from all senior teachers. MC CDC has ten senior teachers: five of them officially appointed as “mentor teachers” and the remaining five assigned as “co-lead teachers.” Even though the latter work closely with students and provide feedback to them, they are not required to mentor them (as per their job description). This study will focus on MC CDC mentor teachers, not on co-lead teachers.

Students come to MC CDC while taking a practicum course through Mission College’s Department of Child Development (DCD). They are first assigned to do observations in the classroom using MC CDC’s observation rooms which allow non-intrusive study of child-adult interactions. Subsequently, students are required to work with children in the classroom under the supervision of CDC mentor teachers, a stage at which they are supposed to engage with their mentors in the development of their practical skills and knowledge. Their overall practical experience takes one semester.

¹ In this document preschool children are not referred to as students, only as “children.” Student teachers may be referred to as “students,” “mentees” or pre-service teachers for clarity and simplicity’s sake.

All these mentor-mentee interactions in the structure of this educational program at DCD and MC CDC require that mentor teachers be well prepared to perform their mentoring roles. However, very little to almost no training in this regard has ever been required from these teacher mentors or has ever been given to them when hired for their positions. Furthermore, their responsibilities as mentors are very general and not at all well spelled out in their job requirements. A vague description of their mentoring responsibilities is described as follows in their job description:

“...Foster positive working relationships and learning environment for staff and students with formal and informal discussions, written communications, conversations about children’s behavior and development and program practice...”

Generally mentor teachers at MC CDC are assigned one to five mentees at a time per semester which can be quite challenging with higher number of mentees given the demands of a classroom and the time needed to observe, debrief, reflect and adjust practices. Mentors and mentees are paired randomly by one of the instructors in the DCD. Mentors and mentees do not meet until the students are actually in the classroom doing an assignment. Although mentors are expected to work with students there is little structure for the learning process. There are hardly any guidelines or mentee’s goals to aim at by mentors and mentees. Instead, all assignments are given by the instructor of DCD and thus mentors are required to evaluate students based on such instructor’s guidelines. Furthermore, the instructor and the mentors do not meet to discuss any particular issues about the students. All communication is done through email and mostly relates to upcoming events that the instructor has designed for the mentees.

Usually mentors and mentees meet for 15 to 20 minutes once a week in the hallway or observation rooms outside the classroom, and when time allows, they discuss particular issues inside the classroom. A typical conversation centers on events or circumstances that happened in the classroom but it does not necessarily have any specific pedagogical purpose or targeted outcome.

1.2 Design Challenge

1.2.1 Problematic State

Research literature indicates that mentoring programs are an important tool to provide the professional development that pre-service teachers need in the workplace (Neuman & Wright, 2010). Mentor teachers are seen as change agents to provide the practical expertise and technical assistance needed for less experienced teachers in the classroom (Ryan & Hornbeck, 2009). Training through real interactions with children requires relevant and timely input from trainers, in adequate settings and conditions, and mentoring efforts need to provide meaningful feedback. At MC CDC the mentoring experiences often present a number of shortcomings compared to what are best practices for mentoring. These shortcomings include relationships that obstruct reciprocal communication and learning, poor instructional support, and a lack of focus on children with deficiencies in oral language and vocabulary.

a) Relationships that obstruct communication and learning

At MC CDC it is common to observe a subordinate relationship between the expert and the novice, where the “mentor” is the only beneficiary of the interaction. For example,

mentors give directives to mentees who are expected to only obey and respond to mentors. Requests coming from mentees are thus neither expected nor encouraged. Some mentors neither foster interaction nor encourage meaningful dialogue. This type of relationship only allows for one way communication from mentors to mentees.

In addition, pairing of mentor teachers and mentees is done randomly by one of the instructors at DCD, trying to match their personalities as much as possible but without the pair of people involved ever having met before or developed a relationship. This approach often leads to establishing formal mentor-mentee relationships where individuals have few common values, beliefs, and attitudes upon which to build strong and vibrant interactions. Moreover, some student teachers are recently arrived foreign nationals who are still acclimatizing to the social and cultural context of the San Francisco Bay Area and thus bring perspectives that often differ from the ones espoused by mentors, MC CDC, DCD, and children's families.

b) Poor Instructional Support

Even when the issues above do not exist, the quality of the interactions between mentors and mentees is often not ideal. Many times mentors simply provide negative criticisms, unhelpful observations, or in extreme case neither feedback about nor modeling of students' demonstrations of their skills. Brief, unstructured conversations, lacking analysis and relevance to mentee's goals, common in a hectic and dynamic environment as it happens in a child development classroom, are not conducive to reflection and mentoring progress. Feedback tends to be limited to events that happened in the classroom and not about students' skills and how to make modifications that improve such skills and the children's experience.

Although opportunities for feedback arise from the myriad of interactions that mentees have with children, mentors' feedback often focuses on discussing activities in the classroom or children's personalities. Mentors also direct mentees to perform clerical or menial activities, such as setting up the classroom at the beginning of the day and cleaning up and locking materials at the end of the day. When done as the main and only area of mentoring, these "chores," and the little reinforcement that accompany them, reduce the potential for greater clarity and understanding of the novice's skills.

c) Lack of Focus on Oral Language and Vocabulary Skills

In addition, mentors give little emphasis to identifying children who show deficiencies in oral language and vocabulary skills and to developing these necessary skills. While observing in the classroom, I noticed that mentors did not pay individual attention to children who showed deficiencies in these areas. These children were in general quieter and less talkative, sometimes played on their own, and responded to questions by nodding their heads. Moreover, these children expressed themselves with very short sentences and lacked the number of vocabulary words that other children their age demonstrated. The lack of quality feedback provided by mentors, with focus on oral language and vocabulary skills, is generally limited and makes mentees less likely to be prepared to work with these children.

The above situations defeat the purpose of mentoring by not emphasizing the assets that the mentee brings to bear to help him/her to make progress in his/her practical training. A complicating factor in this case is the fact that instructors from the DCD, and not

the mentors at MC CDC, are the ones who define the abilities that students need to demonstrate in the classroom. Within this framework, mentors are not active participants when crafting student learning goals but rather executors of a curriculum previously developed by the instructors.

The purpose of this intervention is to better prepare mentors with skills to effectively work with mentees so that children who show lower levels of oral language ability and reduced vocabulary can improve and be better prepared to develop the reading comprehension skills needed in school. It also intends to involve mentors and instructors as co-designers of the learning that mentees need to acquire to bridge the theory-practice dualism.

1.2.2 Local Needs Assessment

I conducted two surveys (i) to identify mentors' knowledge and practice gaps in regards to oral language and vocabulary skills (ii) to explore mentors' own understanding of their role with mentees. Co-lead teachers who work together with the mentors were also surveyed because they work directly with pre-service teachers in the classroom and although they do not formally meet with them they interact and provide regular feedback and modeling in the classroom. These two surveys thus helped establish the links among mentoring quality, mentee's reliance on mentoring for additional training, and the real oral language gaps observed in some children. See Appendix 1.

These surveys complemented my own observations of the mentor's practices which I conducted from hidden observation areas for at least an hour each to validate some of the assumptions made in this study. Notably, when observed in the classroom, very few of the mentors and co-lead teachers used some of the strategies they mentioned in the surveys. They were absorbed by the daily demands of the classroom and by the children who were actively participating in the activities. When probed about specific children in their classroom who showed lower levels of oral language and vocabulary skills some teachers did not even perceive any particular issues with these children. These observations suggest that some teachers do not have the knowledge and skills needed to mentor their mentees and help them identify children with deficiencies in oral language and vocabulary skills.

By analyzing the results in both surveys and further discussing the observations made with each of the mentors and co-lead teachers, two groups were clearly defined. The first group (A) of mentors and co-lead teachers (n=6) had their own limitations: they could not easily detect children with deficiencies in oral language and vocabulary skills and were also unable to verbalize specific strategies used. Evidence of the above limitations included (i) inability to detect these children, (ii) survey results with few or general responses regarding how to work with these children, (iii) actual observations of incorrect practices (even in cases where the survey responses seemed adequate) and (iv) few attempts to specifically work with the children with issues. The second group (B) of mentors and co-lead teachers (n=4) (i) identified the children in their classroom with lower levels of oral language skills, (ii) acted proactively at times using specific classroom strategies, and (iii) talked to parents about how to support the child at home. However, they often lacked the proper professional training in mentoring and organizational structure to consistently support students in the classroom and did not show consistent support for the children who showed deficiencies nor were they observed sharing these priorities with their mentees.

A third assessment, this time with a series of interviews with mentors and mentees, was conducted to further characterize the specific mentorship areas in need of improvement as outlined in the problematic behaviors stated above. The emphasis was on how mentor and mentee work together and how instructional support is provided. The interviews conducted showed that mentors do not have a clear understanding of their role and do not know how to work with their mentees. Two out of five mentors mentioned that they had never been trained to be mentors. The learning that takes place in the classroom is unstructured and relies on events happening on that particular day. Several mentors acknowledged having problems verbalizing what they were trying to demonstrate. Most mentors seemed to think that by having mentees watch them they would acquire the knowledge needed. None of the mentors emphasized the importance of relationship building and quality of instructional support. Typical communication between mentors and mentees was one way with mentors taking the lead on “showing” mentees what to do in the classroom. Most mentees stated that they had a good relation with their mentor; however, when observed in the classroom, they were quiet and remained distant from their mentors. Mentees acknowledged that information mostly came from the mentors and when time allowed they were able to do an activity in the classroom.

By spending time in the classroom observing the mentors, I concluded that mentors at MC CDC had never had formal training on how to be a mentor. This information was corroborated by the mentors themselves in informal conversations with them. While reviewing the job description for these mentors, I realized that it had a superficial reference of the responsibilities, knowledge, and skills entailed in being a mentor. While talking informally to the mentors, I concluded that most of them had very little idea of what being a mentor was.

1.2.3 Technical Challenges

There are several challenges in structuring a study on the impact of mentoring training, more so in the case of mentoring for experienced teachers of ECE. Not only the assessment of the status quo requires a series of, mostly qualitative, metrics but also a child care setting involves numerous participants, not just mentors and mentees. Some of these include parents and children. Parents were asked to sign a permission slip that allowed mentors and mentees to video tape the interactions that take place with the children.

Mentors and co-lead teachers had to find the time to document some of the interactions when they emerged in the classroom. The use of video tape and audio recorders in the classroom provided the tools to capture such observations.

It was also necessary to measure how the intervention in this study could affect the mentor-mentee relationship, the quality of the instructional support, and mentors’ ability to work with mentees and children who show deficiencies. These concepts are made of numerous components, some more easily observable than others, and in some cases only indirectly detected. Therefore, often focusing on symptomatic observations of this relationship constituted the way of assessing the level of practical mentor knowledge.

Regarding scope, we focused on the mentor’s ability to refine mentees’ instruction in oral language development skills. Since opportunities for addressing children’s oral language performance arose at all times, feedback within this scope required careful emphasis as to not mix it with other areas of child development.

Finally, co-lead teachers were an important element of this study since they worked hand-in-hand with the mentors. Even though co-lead teachers are not required to mentor students in the classroom they recognized the importance of this training approach. They participated in the training as part of the planned intervention but they were not monitored for changes in performance.

Finding time to gather all ten mentors and co-lead teachers for 40 hours of training and 16 hours of practice was very challenging and some of the training was scheduled to be done after work hours.

2.0 Theory of Action

2.1 Understanding the Problem

2.1.1 Professional Development for ECE Beginning Teachers

In the last decade a growing knowledge base indicates that well trained Early Childhood Education (ECE) teachers are key players in providing quality outcomes for children,—in particular for those who come from disadvantaged families (Neuman & Cunningham, 2009). Meanwhile, state policies have for years set minimum qualifications and low entry barriers for ECE teachers in general. ECE teachers generally attend a 2 or 4 year college in preparation to obtain either an associate degree or a bachelor's degree before joining the workforce. As a consequence, the ECE workforce is characterized by having a wide range of skill levels (Early & Winton, 2001). For this reason, the importance of good ECE workforce training has gained more attention in the last couple of years.

In their study “Preparing the Workforce for Early Childhood Teachers” Early and Winton (2001) describe the challenges faced nationwide in forming qualified teachers who have a positive impact on children's development. Attracting and retaining students in the field of ECE due to the poor working conditions and low wages add to the difficulties of preparing these teachers. Moreover, providing sustained professional development to solidify the right skills has also become an even more challenging task.

Beginning teachers encounter different challenges in their first year of teaching, a time most commonly known as the “survival” mode phase. Their concerns center on basic issues such as classroom management and understanding the environment in which they operate (Spodek, 1996). It is characterized by higher levels of anxiety due to the transition of moving from a role of teacher learner during pre-service education to that of a more experienced teacher (Baptiste & Sheerer, 1997).

During this transformation of roles teachers develop their own identity and teaching practices. They do so through a process of negotiation of meanings within communities of practice (Stanulis et al., 2010) that moves committed teachers to higher levels of functioning (Spodek, 1996). This process of maturation is complex and involves different stages, which is supported through activities that create learning experiences for teachers (Spodek, 1996). Part of the learning process for beginning teachers entails developing more sophisticated cognitive structures (Stanulis et al., 2010). However, personal as well as educational ideologies also influence how teachers perceive these experiences and thus should be taken into consideration (Spodek, 1996).

Models for early childhood teacher preparation involve scaffolding,—from providing a sound theoretical foundation to acquiring strategies and skills, to putting theory into practice, to modeling appropriate practices, to providing ample opportunities for teachers to demonstrate their skills, and finally to reflecting on practices (Jacobs, 2001).

Given all of the above, mentoring in ECE is seen as a powerful professional development mechanism to provide on-going support and training to beginning teachers (Baptiste & Sheerer, 1997). More specifically, mentoring has been defined not only as an effective tool to support initial and early professional learning of a mentee but also as an effective mechanism to overcome the theory-practice dualism (Hobson et al., 2009).

2.1.2 Mentoring as a Vehicle to Strengthen Teachers' Practice

Desimone (2009) identifies mentoring as one of the structural features of professional development and as a useful tool in improving teacher's practices. More specifically, mentoring is considered an effective tool to support professional development (Desimone, 2009) of beginning teachers by reducing feelings of isolation, increasing their self confidence and self esteem, facilitating professional growth, and improving self reflection and problem solving capabilities (Hobson et al., 2009). Within this context, mentoring plays an important role in the socialization of beginning teachers by introducing them to their new work environment (Hobson et al., 2009).

Mentoring is defined as the pairing of a more experienced teacher called the mentor with a less experienced teacher called the mentee or protégé (Donaldson et al, 2000). Although the terms mentoring and coaching are often used interchangeably and have very similar outcomes, they differ in that coaching is more directed and geared toward achieving a specific or personal goal. Mentoring is considered a dyadic, face to face, long term relationship that fosters mentees' professional academic or personal development (Donaldson et al., 2000).

Relationships between mentors and mentees have been documented to be one of the most important pillars of mentorship. Mentoring has been analyzed within a framework that identifies mentors and mentees' ability to build relationships (Young & Perrewé, 2000), which is considered the foundational mechanism in which it operates.

Researchers have proposed models built on a closer examination of the process of mentoring and how these relationships are formed and maintained. Kram (1985), one of the most important precursors in the analysis of mentoring, defines this relationship as a process over time that evolves and encompasses four different stages: 1) initiation 2) cultivation, 3) separation and 4) redefinition. Other researchers, such as Young and Perrewé (2000) studied the behavioral exchanges that take place during the relationship between mentors and mentees and concluded that the accumulated experiences through the stages of a relationship lead to changes in behavior and information in the persons involved. In their article "The exchange relationship between mentors and mentees" Young and Perrewé (2000) develop a model to examine the process of experience accretion and identify possible outcomes. Overall, the mentoring process is viewed in terms of the quality of the behaviors and information that is exchanged between mentors and mentees that affect positive individual, dyadic, and organizational outcomes (Young and Perrewé, 2000).

Ultimately, the degree of effectiveness in a mentoring relationship has been for the most part analyzed in terms of self reported studies among both mentors and mentees that focus on the levels of expectations met and perceptual and tangible outcomes (Young and Perrewé, 2000). Other researchers have explored the notion of mentoring effectiveness based on relationship quality and learning (Allen & Eby 2003).

However, certain conditions need to be in place in order to have positive mentoring outcomes. Young and Perrewé (2000) emphasize antecedent factors such as individual characteristics, environmental, career and relationship factors that influence the initial stages of the relationship while at the core of the mentoring process lies the exchange of behaviors between mentors and mentees that produce the different levels of expectations met and perceptual and tangible outcomes. In addition, certain organizational conditions need to be in place in order to support mentoring programs that foster the learning process

in the mentoring relationship. They include organizational support and commitment to providing time to meet and discuss, involving mentors in the design and evaluation of the mentoring program, and flexibility in pairing mentees with mentors (Hobson et al, 2009).

Many relational challenges center around the beliefs and prior experiences that the mentor and mentee bring to the relationship, all of which influence their expectations on how the mentoring relationship should evolve. These different conceptions directly affect the relationship and learning process by influencing how they communicate, the topics they address, and the type of advice or support that is given (Bradbury & Koballa, 2008). Deeper challenges to developing a successful working relationship include the inability of experienced teachers to discuss their practice with other teachers, the tendency to avoid conflict, mentees not receiving helpful advice and feedback, and the lack of time to discuss experiences (Bradbury & Koballa, 2008).

These challenges can be tackled with a combination of mentor training and the tangible recognition of the unique demands upon mentors (Keogh et al, 2006). In fact, the effective selection and preparation of mentors is considered one of the most important pre conditions for successful mentoring (Hobson et al., 2009). Training for mentors includes preparation on how to provide constructive feedback (Keogh et al., 2006), developing productive communications, knowledge of the mentor role, and ways to facilitate true and useful reflection (Bradbury & Koballa, 2008).

The academic literature provides a rich source of explanations and guidance on many aspects and elements of mentoring that may hinder the intended outcomes when working with mentees. The following sections describe research sources whose focus is applicable to the behaviors observed in mentors at MC CDC.

2.1.3 Importance of Mentor—Mentee Relationships

Research (Young & Perrewé, 2000) indicates that a person's willingness to engage in a mentorship relationship depends on a combination of five main factors relevant to either mentor or mentee. The first factor corresponds to individual characteristics such as his/her demographic traits (e.g. gender, ethnicity, socio-economic status) and natural disposition (i.e. drive, emotional stability, etc). The next three refer to environmental factors (i.e. organizational climate, mentoring opportunities, and reward structure for participants), career factors (i.e. cost and benefit for career progress), and relationship factors (i.e. personality attraction, other person's influence on career and organization and commitment). The last factor, relationship type, refers to formal and informal nurturing of relationships. If all these five factors are aligned, the opportunity of a new mentor-mentee relationship is generally supported.

However, if one or more factors do not favor establishing relationships, as it is often the case at MC CDC, it can lead to dysfunctional mentoring relationships and outcomes. Scandura (1998) states that these negative relationships increase personnel attrition. Some examples of these negative relationships include mentors who abuse their authority or ignore their mentees as it has been observed at MC CDC. Subordinate relationships also occur when mentors are formally the immediate supervisors of their mentees and when the pairing of mentees to mentors is forced rather than mutually agreed (Scandura, 1998). Mentees may in turn develop submissive behaviors where learning is done unilaterally from mentor to mentee.

Young & Perrewé (2000) in their framework for mentorship, refer to personal disposition as a key factor to determine the willingness to engage into, and the success of, a mentoring process. They indicate that individuals participating in a mentoring relationship show more power, achievement needs, higher self-motivation, emotional stability, and confidence. These are traits that are at least partially independent of values and beliefs. Glenn (2006) found that an open attitude to accept others—which I hypothesize is the result of strong confidence, stability, and motivation—is critical to overcome differences in perspectives from beliefs and values that mentors and mentees may have. At MC CDC, teachers have a limited understanding of their roles and responsibilities towards their mentees. It is depicted not only in the type of interactions that they have with their mentees, for example when assigning menial chores in the classroom, but also in the teacher’s job description which makes very vague references to mentoring.

2.1.4 Importance of Quality Instructional Support

In addition to the necessary amount of structured routines and the use of professional development plans, adequate observation and feedback practices are required for good mentoring (Van Ast, 2002). The process of mentoring is truly a trial and error process in which mentees need to show what they have learned through demonstration. By trying to replicate the drills that the mentor has in turn initially demonstrated, mentees gradually reinforce their understanding of what works, what their own style of doing things is, and form their own philosophy about teaching children (McNally & Martin, 2006).

When mentors model and mentees observe, mentors should display “detailed high inference” feedback by “making real attempts to make their craft knowledge explicit” (Arnold, 2006). They should act naturally without giving explanations during modeling. Mentees should shadow them without interrupting, following pre-defined ground rules (Barnett, 1990). This knowledge transfer demands that both participants reflect not only on the technicalities but also on the pedagogical aspects of the demonstrations. It is the time for the mentee to obtain more information (e.g. experience, practical knowledge, theory) from the mentor’s perspective (Zantig, Verloop & Vermunt, 2003).

When mentees model and mentors observe, mentors should not judge or make inferences, avoiding negative or normative statements. In some cases, children and parents tend to ignore mentees and interact directly with mentors. Mentor teachers should direct attention to the mentee and ensure all participants in the activity let the mentee drive the events.

At MC CDC feedback tends to be non constructive and with low inference. There is strong emphasis on the tactical components such as organizing items in the classroom and not on the “cognition that underlie their own teaching” (Zantig, Verloop & Vermunt, 2003). As discussed elsewhere in this document, conferences occur unevenly, and last at most 15 minutes in hallways, in an unstructured way, once a week. The language used by mentor teachers in the classroom at MC CDC is often blunt and normative, indicating that feedback is non-collaborative, non-developmental, and directive (Kullman, 1998).

2.1.5 Importance of Early Literacy Skills Development — Relevance to Equity

A significant number of children entering Kindergarten and First Grade, often coming from disadvantaged families, lack early precursor skills that serve as a foundation for future reading comprehension skills (Lonigan & Shanahan, 2009). Research indicates

that there is a strong relationship between the level of skills developed during preschool years and the literacy skills shown later in elementary school (Lonigan & Shanahan, 2009). Some of the literacy skills associated with these early precursor skills include vocabulary development, phonological sensitivity, and print knowledge (Wasik and Hindman, 2011).

ECE teachers play an important role in the development of children's precursor skills. This is even more relevant when working with children from disadvantaged families. Teachers who provide children with rich language environments, such as those that include frequent interactions and awareness of sounds and letters, are especially helpful to children less likely to experience adequate stimuli at home and in their communities (Neuman & Wright, 2010).

However, course preparation in language development for ECE teachers is limited in terms of content and depth (Early & Winton, 2001). Several studies indicate the need to provide additional professional development (Wasik & Hindman, 2011; Pearson & Dunsmore, 1998; Dickinson & Caswell, 2007; Neuman & Wright, 2010) to ECE teachers to improve their ability to assist children's skill development.

2.1.6 Considerations on Potential Causes of Problematic Mentor Behavior at MC CDC

Regarding the context at MC CDC, the organizational structure hinders the conditions for good mentoring. The job description for mentors is vague and does not emphasize the skills needed for good mentoring. There has been very little training to build the skills needed and most of it has been informally done in the classroom. Finally the previous administrations did not encourage time to meet and reflect between mentors and mentees on the learning that occurs in the classroom. Another impediment is the fact that instructors at the DCD are the only ones responsible for drafting the growth and development of the mentees. Teachers at MC CDC are seen as supervisors of the mentees and follow guidelines established by the instructors.

Regarding the context of the feedback, MC CDC tends to have a rather hierarchical and normative way of disseminating information. The "information sharing norms" of the organization seem to discourage communication from the mentees and thus hinder the frequency of feedback seeking request by the mentees (Ashford, 1986). Also, some students have values, beliefs and attitudes that differ from the ones MC CDC mentors have. Cultural adaptation is still in progress and thus adds confusion to the information exchanges listed above.

2.2 Theory of Intervention

This intervention's design aims at tackling mentors' problematic behaviors by changing attitudes and building skills and knowledge that produce desired outcomes. A theory of intervention in this case outlines the framework that helps improve mentoring abilities which in turn provide pre-service teachers with the necessary skills to support children who demonstrate lower levels of oral language and vocabulary development. Any framework element that fostered, facilitated, or triggered change of such skills and knowledge, and eventually attitudes and behaviors, was considered relevant to the intervention. Therefore, change drivers constituted the areas of focus when designing the intervention.

2.2.1 Change Drivers

a) Relationship Building that Fosters Reciprocal Communication

Mentors need to build trusting relationships with their mentees to increase communication channels and have time to meet, discuss, and reflect on practices and observations (Jacobs, 2001). The relationship between mentor and mentee has to be based on collaboration, where both sides benefit from the experiences that they share together. Both mentor and mentee need to exchange ideas, reflect on practices, and brainstorm to create better outcomes. They both have to value each others' feedback and support each other in the classroom as a team. One of the areas that were emphasized in the training was that mentors and mentees have to construct their knowledge together and benefit from the reciprocal mentoring relationship in improving best practices in the classroom (Pavia et al, 2003).

b) Instructional Support Improvement

Mentors need to provide useful, meaningful, and relevant instructional support when working with mentees, and know that they (the mentees) require a lot of reassurance when working in the classroom.

Good mentors know when to let mentees demonstrate their abilities and discuss their experiences and so they encourage mentees to practice their skills before them as frequently as possible. In fact, it has been observed that most mentees acquire their abilities by demonstrating and receiving feedback on how they apply their own skills in the classroom (Spillman, 2015). Moreover, good mentors are able to work with adult learners, understand their level of professional development, effectively model skills, and provide meaningful, appropriate, and timely feedback.

c) Instructional Support in Oral Language and Vocabulary Skills

Professional development is shown to improve teacher knowledge and quality of early language and literacy practices when a combination of professional development and coaching, which allows for practical demonstrations and reflection, is utilized (Neuman & Cunningham, 2009). Pre service teachers in particular need to acquire more knowledge to compensate for the inadequate initial preparation that they receive during their coursework (Spodek, 1996). With new research surfacing in the last decade about the impact of reading instruction or emergent literacy, there is a clear need to better train pre service teachers, for which mentoring is a viable alternative (Spodek, 1996).

As it happens, mentors at MC CDC have been giving little emphasis to identifying children with lower levels of oral language and vocabulary skills. Some of them still need to learn to identify and diagnose children.

If we were to address these deficiencies at MC CDC, mentors should first realize the importance of focusing on oral language and vocabulary skills and then learn pedagogical strategies to work with both children and mentees. For children this learning is particularly important since supportive environments—rich in language interactions and literacy— help disadvantaged kids who experience less stimulating environments at home or in their community (Neuman & Cunningham, 2009). When teachers play and engage young children in rich language conversations and intentionally expose them to rich content,

children acquire the foundations for future reading comprehension skills (Dickinson & Caswell, 2007; Wasik, Bond & Hindman, 2006).

2.2.2 Designing the Intervention

In this section I explain the rationale and the steps for designing the intervention that mentors were eventually subjected to.

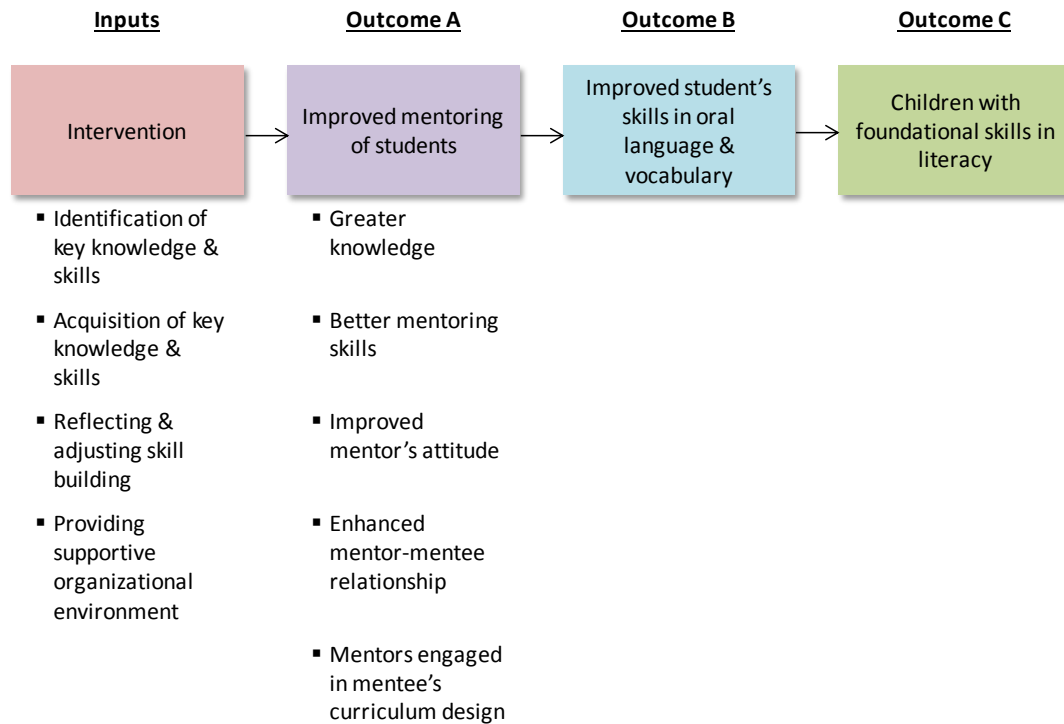
Starting with its main purpose—to influence mentors and create positive changes on how to work more effectively with mentees—this intervention included a series of activities and organizational changes to increase practitioners' knowledge and improve practitioners' skills and attitudes towards pre-service teachers including: (i) improved mentoring of students including enhanced mentor-mentee relationships, (ii) improved students skills in oral language and vocabulary so that (iii) children can acquire the necessary foundations leading to gains in literacy skills. In fact, training efforts that provide opportunities to learn new skills, practice skills, and obtain meaningful and timely feedback have demonstrated to be highly effective (Sheridan et al., 2009). Moreover, research indicates that when professional development is a combination of acquiring knowledge, providing opportunities for demonstration, practice, and feedback, it significantly increases knowledge (Joyce & Showers, 2002).

One secondary purpose of this intervention, as part of the overall goal of improved mentoring of students, was to integrate mentors into the design process of the ECE student curriculum (i.e. practicum or classroom guideline) that currently only DCD instructors generate. The goal was to foster stronger collaboration between MC CDC and DCD by combining theory and practice in an interactive manner so that mentors' experience could blend with instructors' theory.

The professional development designed in this intervention thus had the following components:

- Identification of required knowledge and skills.
- Acquisition of such knowledge and skills.
- Reflecting and analyzing skill building and making adjustments.
- Providing an organizational environment to support the mentoring process

Figure 1 – Causal Model of Intervention



My first step was to identify what knowledge and skills the mentors needed to effectively work with their mentees. To do it I approached a group of DCD instructors, including one of the pioneers of mentoring training in California together with a local expert in Early Childhood Education, and invited them to collaborate in designing the professional development intervention for the lab school. During five two-hour meetings the group identified the required skills. As an active researcher in this intervention I also guided the group's effort while sharing the knowledge base discussed in this document. Broadly, that mentors need training and on-going support in mentoring (Pavia et al, 2009); that mentors need to be able to model techniques, communicate, and demonstrate strategies in the classroom that allow students to put theory into practice; and that mentors need preparation in how to provide the instructional support needed in the classroom including providing constructive feedback (Jacobs, 2001). The group thus focused on three areas to drive change: 1) relationship building 2) instructional support and 3) oral language and vocabulary. The related skills to effect change had to be identifiable, easily observable, or highly inferred. The group also proposed a rubric for the identification and assessment of desired skills that I evolved into the final rubric found in the appendix.

The second step was to understand ways to build this knowledge and skills in mentors so that they could more effectively work with their mentees. Although these mentors had been working with cohorts of students for over eight years on average, and so they had been using mentoring skills and oral language development strategies for some time, several of them had been using them without realizing it. Thus, my immediate task was to raise mentors' awareness of these skills. After awareness my next task was to

provide basic training to ensure a minimum level of knowledge, through lectures, exercises, and review of best practices which in turn accelerated mentors' ability to learn, use, demonstrate, and communicate these skills effectively. Specifically, I decided to use a combination of classroom lectures to acquire specific skills with multiple opportunities to practice the skills learned. I also noticed that for years at MC CDC, DCD instructors were responsible for crafting the learning curriculum for mentees that would take place in the classroom. MC CDC mentors were rarely involved in the actual design of learning curriculum for students. Mentors prepared the classroom for student's pre-established activities and explained the daily activities of the classroom, often focusing on menial jobs. For this intervention mentors and instructors were required to work together and meet at least once a month to understand the needs of students and devise ways to translate theory into practice. In summary, mentors, once equipped with the skills to be taught to students and the proper skills to teach, had to become active participants of the design of their mentees' curriculum.

Research shows that professional development that provides a reflective approach to learning (Pavia et al., 2015) and where participants are active learners and share knowledge with other professionals can effect real changes in practice (Brindley et al., 2002). Moreover, mentors need to participate in regular group discussions that elicit an exchange of ideas and clarify beliefs (Pavia et al., 2009). These observations then led my efforts to ensure that intervention participants (including myself) periodically reflected and analyzed both the process and the level of skill building as to course correct when necessary. Thus, as a third step, we set the objective for mentors and instructors of co-producing a series of classroom guidelines on the three change driver areas, due at the end of the intervention. Weekly lectures and practices were followed by two-hour sessions to reflect, analyze and review the skills. Changes to the intervention were constantly assessed by the researcher, the mentors, and the instructors to adapt to the particular circumstances of the CDC environment. Mentors, once again, had turned into co-designers of the practical side of the pre-service teachers' curriculum.

Pavia's and Brindley's observations above also implied that it was indispensable to provide the organizational environment to support the mentoring intervention. Mentors need time to reflect and discuss what is being learned (Jacobs, 2001). For this reason I structured the intervention to last a number of months as to avoid an excessive workload on mentors and instructors while giving them time to absorb and adapt to the changes. Most of the lectures and reflections were held during paid "staff learning" sessions, providing ample materials, tools, and amenities.

Video tapes are commonly used in mentoring and are known to be a very effective learning process tool (Van Ast, 2002). Videotaping has proven to also improve two way communications (Brindley et al., 2001) and the understanding of how to implement classroom strategies that improve children's learning (Wasik and Hindman, 2001). When mentors and mentees see, review and discuss these skills together, they are able to identify and discern which skills can be effective in the classroom. For this reason, I relied on video taping to enhance and complement traditional lecture and workshop tools. With the help of DCD instructors I designed and recorded a set of contrasting videos to demonstrate effective mentor skills when working with mentees and not so effective skills in each of the areas of the intervention. The final result was a total of six videos, presented at the end of

each training module, that mentors discussed during reflective workshops, to provide vivid examples in a real environment.

I also used individual videotaping as a means for mentors to reflect on their own abilities. With the help of co-lead teachers mentors videotaped themselves once a week when working with their students. Mentors had the option to share their video tapes in the discussion workshops or share their experience with the other mentors.

2.3 Feasibility: Preconditions for Implementing the Design

The change process delineated above demanded certain pre-conditions to be successful. On the one hand pre-conditions included structural changes to the autonomy and freedom that MC CDC mentor teachers exercised as to ensure they could interact with their mentees. In practice this meant sharing the responsibility and accountability for student teacher training with the DCD instructors. Since both DCD instructors and MC CDC mentors are unionized, I had to verify whether the result of adjusting roles was still compliant with the contractual definition of positions and responsibilities (which it was).

On the other hand, and in order to make the first precondition effective, there needed to be a level of alignment between institutional values and those espoused by MC CDC mentor teachers. Certain attitudes, beliefs, or even principles were re-assessed during the discussion sessions held by mentor teachers and instructors as a pre-condition for skill improvement.

2.4 Intervention

This intervention was made possible through a Perkins Grant awarded to MC CDC by the state of California, which covered the cost of specialized instructors and allowed mentors to receive comprehensive training on job-related skills while being paid for their (over) time during instruction and classroom practice.

Instructors from DCD and experts on Dual Language Learners as well as well known mentors in the community participated in the instruction. This intervention included 40 hours of professional training with the mentors at MC CDC and observations over the course of 16 weeks. During these learning workshops instructors presented to mentors pre-staged videotapes with third party participants that demonstrated a particular skill in a contrasting manner. For the contrast, one set of videotapes skillfully demonstrated the skill in practice while the other set of videotapes showed some shortcomings. The expectation was that with the videotapes mentors would reflect and identify effective and not so effective skills during practice.

These learning workshops were followed by practice in the classroom. Mentors role-played the skills learned and received feedback from coaches who were either DCD instructors or specialized trainers. Mentors then videotaped themselves in 30-minute video clips performing the skills in the classroom. Finally, during structured sessions to watch the video clips, mentors and DCD instructors reflected on the skills and their use.

This interactive and cyclical approach of learning, practicing, and reflecting allowed mentors and instructors to tailor the skills to the particular needs of the mentees in the classroom. At the end of the professional workshops and practice sessions, mentors and instructors developed a guideline that can be used in the classroom as a toolkit when

working with mentees. This guideline outlined concrete examples of how the skills learned can be applied. This purpose of the guideline was not only to show current mentors how to approach their mentees but to also serve as reference for future mentors new to the program. See Appendix 11.

I divided the intervention into five modules as follows:

Module 0 was an introduction to the topics and an explanation of objectives.

Module 1, the first training of the intervention, focused on relationship building between mentor and mentee.

Module 2, the second training of the intervention, focused on the skills to improve instructional support.

Module 3, the third training of the intervention, encompassed the skills learned in the previous modules applied to oral language and vocabulary skills in children.

Module 4, the final one, was an exercise on co-designing a mentoring practice guideline.

Within this framework, mentors and instructors co-designed an intervention tailored to the particular instructional needs of students at DCD and MC CDC. Given that this particular educational problem is complex and multi-dimensional in nature instructors and mentors worked together, each bringing their own expertise and experience, combining theory and practice. This process was continually tested in practice until the final elements were refined.

Ten MC CDC teachers were trained: five of them were mentors at the time in charge of training ECE students and five were co-lead teachers who supported the mentors in their teaching roles. Over time these co-lead teachers will be promoted to mentor roles and thus this intervention prepared the ground for future staff development and promotion. I organized these ten individuals in five teams with one mentor and one co-lead each. The evaluation of the intervention covered the mentors' individual results. We met once a month on Saturday for six hours for four months and every other Monday for two hours during a period of sixteen weeks (i.e. 40 hours). Another 16 hours were used to practice and video tape the skills learned in the classroom and to create the guidelines that would serve as a manual for the classroom.

I staffed this intervention with five instructors, three of them from DCD and two from other institutions. The MC CDC instructors were in charge of the classroom course work that pre-service teachers undertake at Mission College. At the time they designed the student curriculum in Child Development and placed students in the CDC Lab. One of the DCD instructors was an expert in oral language and vocabulary skills in particular for dual language learners. The first external instructor was a local expert coaching ECE program directors. The second instructor was an experienced ECE quality assessor who evaluated the intervention.

Table 1 –MC CDC Mentor Training Modules

Pre Intervention and Intervention: 40 hours of training and 16 hours of practice

Item	Module 0 – Pre Intervention Module 1 – Relationship Building	Module 2 Instructional Support
In person training	Role of a mentor Role of a mentee Importance of building trust and attachments	Adult learners / teacher development Unlearning / disequilibrium Learning to lead Evaluation and feedback skills Reciprocal communication and learning Communication strategies Mentors as co-learners and co-inquirers Mentor as models
Desired outcomes	Skills to build relationships Effective communication Timely support	Skills to provide instructional support Reciprocal feedback Fostering practice

Item	Module 3 Oral Language & Vocabulary Skills	Module 4 Co-Design
In person training	Identify children with deficiencies Tools to improve oral language and vocabulary skills	Draft guideline review Contrasting videotape reviews Final guideline
Desired outcomes	Skills to identify children with deficiencies Identification of deficiencies Modeling skills	Product co-design*; Mentoring Practice Guideline

* Co-design indicates both mentors and instructors actively participated and collaborated in the design.

Table 2 – MC CDC Mentor Training Parameters

Metric Targets – Pre and Post Intervention

Item	Module 0 – Pre Intervention Module 1 – Relationship Building	Module 2 Instructional Support
Interactions between mentors and mentees	Relationship building Tool: Observation protocol with rubric**	Providing instructional support Tool: Observation protocol with rubric**
Mentors' abilities and behaviors	Skills needed for desired outcomes Their perceptions of their own skills and of their relationship with mentees Tool: Interview**	Skills needed for desired outcomes Their perceptions of their own skills and of their instructional support with mentees Tool: Interview**
Mentees' perspective on mentors	Skills learned via desired outcomes Their perceptions of mentors' effectiveness Tool: Interview**	Skills learned via desired outcomes Their perceptions of mentors' effectiveness Tool: Interview**

Item	Module 3 Oral Language & Vocabulary Skills	Module 4 Co-Design
Interactions between mentors and mentees	Strategies to improve instruction for mentees identifying and working with targeted children Tool: Observation protocol with rubric**	None (Interactions between mentors and instructors during co-design)
Mentors' abilities and behaviors	Skills needed for desired outcomes Their perceptions of their own skills and the instructional support on oral language and vocabulary skills with mentees Tool: Interview**	Collaboration and team work
Mentees' perspective on mentors	Skills learned via desired outcomes Their perceptions of mentors' effectiveness Tool: Interview**	None (Interactions between mentors and instructors during co-design)

** An independent third party conducted observations and interviews (neither the CDC Director nor the DCD Instructors).

We used for the intervention the facilities at the MC CDC Lab, which include children’s classrooms, observation rooms, and student classrooms. We used videotaping equipment for each team to record their practices and share the findings with the other teams. Each person received a copy of Mary Nolan’s “Mentor Coaching and Leadership in Early Care and Education,” published by Thompson Del Mar Learning in 2007.

Module 0 — Introduction and Presentation of the Intervention Design

Mentors and instructors gathered to discuss the intervention design including the modules, components of the training, and the process. I (as the author of this design) stressed the importance of collaboration between instructors and mentors during the intervention to combine theory and practice and, in particular, the importance of mentors in their role as co-designers and experts in bringing their practical knowledge.

Module 0	Duration	Activity	Assessment Tool
Introduction	2 hours	Introduction Scope of the training	None

Module 1 — Relationship Building and Communication

Mentors received training to develop a clear understanding of their roles and responsibilities towards their mentees. The module also explored the expectations that mentors have of their mentees and how this is represented in the classroom. Mentors discussed how they can act as agents of change and impact students’ learning and its effect on children. Mentors also explored the importance of transitioning mentees into the classroom and the foundations of building relationships that foster trust and communication.

Mentors learned how strong and positive relationships foster reciprocal communication and learning. Mentors discussed different strategies in the classroom to sustain positive relationships between mentors and mentees. These strategies were tested in the classroom. Mentors and instructors brainstormed in the following session on the strategies that demonstrated to be more effective and that best addressed the needs of the students at Mission College.

The goal was that at the end of this module mentors and mentees would have a better understanding on how to build relationships with mentees that foster trust and communication.

Module 1	Duration	Workshops	Assessment Tool
Relationship Building	12 hours	Role of a mentor/role of mentee Importance of building trust and attachments Strategies for relationship building Discuss how this looks in the classroom	See Appendix 2 See Appendix 7

Module 2 — Instructional Support

Mentors received training in adult learners and teacher's development. They were introduced to concepts of unlearning and creating disequilibrium. After these sessions mentors were expected to have a better understanding of how to support mentees with different levels of expertise and learning styles; and of their role as modelers, as co-learners, and co-inquirers. The instruction during these sessions also delved into the evaluation of mentees and ways to develop feedback skills that are relevant, particularly structured feedback. Mentors considered the benefits of planning, from selecting time to meet and discuss in depth the experiences of the classroom to structured meetings and conversations.

At the end of this module mentors were expected to be better positioned to provide meaningful and timely feedback when understanding their own performance under real conditions, which requires interactions with children in the classroom, and to adequately model best practices, through discussion of videotaped interactions from the prior session.

Module 2	Duration	Workshop	Assessment Tool
Instructional Support	14 hours	Adult learners/teacher development Unlearning/Disequilibrium Learning to lead Evaluation and feedback skills Reciprocal communication and learning Communication strategies Mentors as co-learners and co-inquirers Mentor as models	See Appendix 3 See Appendix 8

Module 3 — Oral Language and Vocabulary Skills

In Module 3 instruction was geared to the area of oral language and vocabulary skills in children. Mentors used the skills built in modules 1 and 2 and applied them specifically to work with mentees studying children who show lower levels of oral language and vocabulary skill development. Mentors learned new tools and tested them in the classroom to provide mentees with the skills to support these children.

At the end of this module mentors were expected to have a better understanding of how to provide effective instructional support in the area of oral language and vocabulary skills that supports children's development.

Module 3	Duration	Activity	Assessment Tool
Oral Language and Vocabulary skills	6 hours	Identifying children with deficiencies Strategies on how to work with these children	See Appendix 4 See Appendix 9

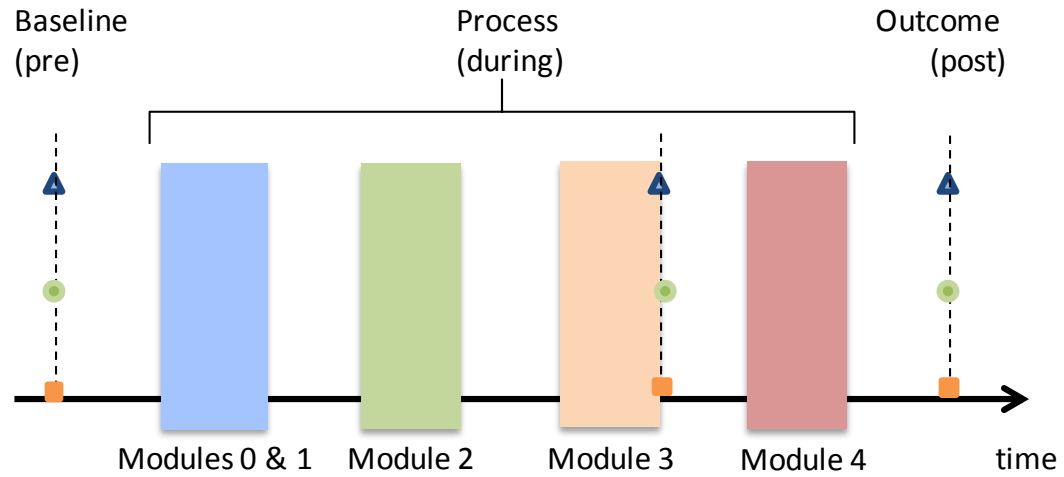
Module 4 —Co- Design of a Mentoring Practice Guideline

Mentors and instructors met to review a first draft of the mentoring practice guidelines based on the mentors' reflection during the training in modules 1, 2, and 3. These guidelines constitute a tool kit that mentors could use to pursue different strategies to work with their mentees and achieve specific goals. Once this initial review was completed, mentors watched videotapes showing the contrast between effective and not so effective practices in the classroom, performed by a third party. The group discussed these examples, reflected on the initial draft of the guideline vis-à-vis the effectiveness of the practices just seen, and made changes or adjustments to the draft.

Module 4	Duration	Activity	Assessment Tool
Introduction	6 hours	Draft guideline review Contrasting videotape review Reflection Final guideline	See appendices 2, 3, and 4

This intervention included the use of an observation protocol with pre-identified skills in each of the different modules and their associated rubrics. In addition, interviews with mentors and mentees probed their ability to identify the key skills needed and assessed their own perception of these skills. Along the intervention process, mentors and instructors worked collaboratively to refine the skills needed for the modules. This is further discussed in the next section which outlines the methodology.

Figure 2 – Timing of Intervention Assessments



Data Collection

- ▲ Protocol and Interviews for Relationship Building and Communication
- Protocol and Interviews for Instructional Support
- Protocol and Interviews for Oral Language and Vocabulary

3.0 Research Design and Methods

3.1 Methodology

The purpose of this study was to develop an intervention to help mentors acquire the skills to mentor ECE students, specifically in the area of children's oral language and vocabulary skills development. As the primary agent and researcher of this study, I selected MC CDC mentors and DCD instructors to work as collaborators and co-designers of the practices that would be adopted in the classroom. This design within a design allowed researchers to develop an intervention that addresses an existing problem of practice that was identified at MC CDC and was tailored to the specific needs of the organization. The change drivers identified in this study were tested in the classroom over the course of eight months.

The methodology selected for this study is known as Design Research or alternatively Design Development (Van den Akker, 1999). It is largely based on the work by Plomp, Nieveen, van den Akker and others from the Netherlands Institute for Curriculum Development. They define "Educational design research [as] the systematic study of designing, developing and evaluating educational interventions (such as programs, teaching-learning strategies and materials, products and systems) as solutions for complex problems in educational practice"(Mintrop, 2015).

I chose this methodology considering three main criteria, namely (i) the intent of the research study, (ii) the state of the knowledge base upon which we started to expand our understanding of the challenges, and (iii) the type of research environment where the study was conducted.

Since this design requires an active participation from the researcher, Design Development was combined with an Action Research approach. Within this context, the researcher is the primary actor designing the intervention.

These two methodologies, Design Development and Action Research, blend well together and are similar in nature since they focus on developing practical knowledge to solve problems. These methodologies look at research as it is happening (in action) rather than taking an outside perspective about what is happening in the context. This study also required an approach that could test the design implementation according to the theory of action previously outlined. In other words, the intent of this study was to improve on a currently existing complex problem in educational practice, consult the knowledge base to better understand this challenge, and implement an intervention in an environment that is unique and hard to control.

In contrast, a traditional set of methodologies attempts to verify a hypothesis, based on sufficient prior knowledge, by conducting experiments in a tightly constrained research environment. This was not my case.

First of all, I was interested in executing an intervention to reach a desired state—which may be transferable to other settings— and so this goal emphasized my intent to effect change, not to verify a hypothesis.

Second, the level of knowledge may not be sufficient to conduct a traditional experiment because the context is very complex and dynamic. Thus, such context should be bounded, and the researcher should constantly assess and expand his/her understanding

of the challenges encountered in it. This intervention was an ongoing and evolving effort, rather than a pre-ordained process.

Third, since the researcher is introducing an intervention in a real life setting, the study must explore people acting in their natural context. Unfortunately, context varies in many ways across settings and over time, adding uncertainty and limiting control of the research environment. This is where a unique set of attributes of Design Development came into play to enable my intervention and another reason to select Design Development as my methodology.

I faced a lack of proven practical solutions, process guidelines, or simply “validated principles” to address the specific real life challenges I wanted to tackle. Conveniently, Design Research methodology gives researchers the structure for “systematic inquiry in the midst of this uncertainty” (Mintrop, 2015) by relying on an extensive research literature and my own personal practical experience. This scaffolding facilitates the development of solutions under uncertainty, starting with the current level of knowledge while demanding innovation, creativity, and repeated trials in the design space. Thus, the methodology relies on two unique mechanisms in a journey to advance knowledge and effect change:

- Collaboration between practitioners and researchers working in teams (Coghlan et al, 2007).
- Iterative implementation using a cyclical process of (i) analysis, (ii) design, (iii) evaluation and (iv) revision, aimed at reaching a balance between the desired state and the outcomes achieved with the intervention.

“Researcher Bias is a problem in all studies irrespective of the methodology used. Bias occurs when researchers slant the research based on the results that they expect or want to show” (Mintrop, 2015). In the case of Design Development the bias is often driven by the desirability of showing impact and effect. When the researcher has additional roles such as participant and evaluator, biases may be more pronounced. Fortunately, the researcher can mitigate biases by using Action Research methods. They foster research rigor when researchers are directly involved as actors in the processes they are studying. They rely on internal self-control and distancing through critical self-reflection and reflection with others, while applying these techniques iteratively: diagnosis, planning, acting, and evaluation. In order to avoid bias in this study, external participants recorded the data of the intervention.

This design study was grounded on a preliminary needs assessment, a theoretical framework, empirical testing, documentation, analysis, and reflection on the process and data captured through the intervention (van der Akker, 1999). These were used as key characteristics to support the development of a research-based intervention. I conducted a preliminary needs assessment to better understand and narrow the problem of practice observed at the organization. I later investigated the literature and documented practical approaches in which this problem had been previously addressed. A combination of literature review and practical experience was merged to frame the design. The methodology used different types of data to assess the design’s impact and investigate the process of the implementation to better understand how the outcome was influenced by the process.

Finally, I investigated the effectiveness of the design through a process of empirical testing. I used observation protocols as well as structured interviews with the unit of

analysis (mentors) and distal participants (mentees) to ensure that both the process and the outcome were well documented and sustained a rigorous approach.

3.2 Tools Developed for the Intervention and Research

3.2.1 Lectures

As describe above in 2.4 Intervention, DCD and external instructors developed material for lectures that constituted the core of the instructional side of the intervention. These lectures were given during the 40 hours of scheduled training (outside the normal work hours).

3.2.2 Classroom Practices

Pairing the content provided through lectures, instruction included specific opportunities to try the new skills out while working with children in the classroom. Each mentor and co-lead team performed specific tasks that illustrated the content reviewed in the most recent lecture. Later, before the next lecture, mentors debriefed instructors and shared their personal experience and commented about the relevance, applicability in the classroom, and possible adjustments to the practices.

3.2.3 Observation Protocols

Together with the DCD instructors we developed protocols that define standards of quality for the skills that need to be observed in the classroom. We developed three protocols: one for relationship building, another for instructional support, and a third one for oral language and vocabulary skills in children. An external evaluator used these protocols in the pre-intervention period, that is, before the workshop training took place, later in the post-intervention period after the workshop training had taken place, and finally three months after the intervention was completed (when a new group of mentees came on board to assess if the skills developed did not degrade over time).

Along with the protocols I developed a set of rubrics to assess the level of competency for each of the change drivers. Taking the skills identified by the group of instructors during the design phase as reference, I used easily identifiable behaviors captured in the protocols as indicators of competence and combined them using an analytical rubric to come up with key components of the change drivers. Then, I defined a holistic rubric with these components to provide a measurement of the level of progress of such drivers. See Appendices 6 to 9.

3.2.4 Interviews with Mentors and Mentees

I developed a set of interviews for both mentors and mentees to assess mentors' ability and effectiveness at improving their mentee's skills. While answering open ended question, without probing, respondents also provided details about the conditions, catalysts, and processes that led to changes in mentors' knowledge, skills, and behavior.

3.2.5 Reflective Worksheets and Mentoring Practice Guideline Development

During the intervention mentors and instructors collaboratively identified relevant skills to develop a guideline of actionable techniques to use in the classroom with mentees. Starting with the content of the training workshops mentors had to define a list of the most important objectives, pedagogical strategies, and tools that could be used from each of the

modules. Appendix 5 includes the worksheets used to elicit their knowledge and boil down the key components of a practice guideline. This mentor guideline was aimed at explaining a series of tools to develop skills and reach certain standards to (i) build relationships with mentees (ii) improve instructional support (iii) and identify and work with children with lower levels of vocabulary skills. This guideline was further assessed and revised after modules 1, 2, and 3 as mentors continued to deepen their ability to work with mentees. See Appendix 11 for the final version, eight months after the beginning of the intervention.

3.2.6 Pre-Staged Videotapes

A set of pre-staged videotapes complemented the training for each of the modules depicting pre-identified skills and demonstrating the use of these skills in a highly effective and not so highly effective manners. The purpose of these video tapes was for mentors to reflect, compare, and assess the effectiveness of the skills used in the classroom, improve their understanding in how to use the skills in the classroom and refine the mentoring practice guideline.

Figure 3 – Structure of Intervention Assessments

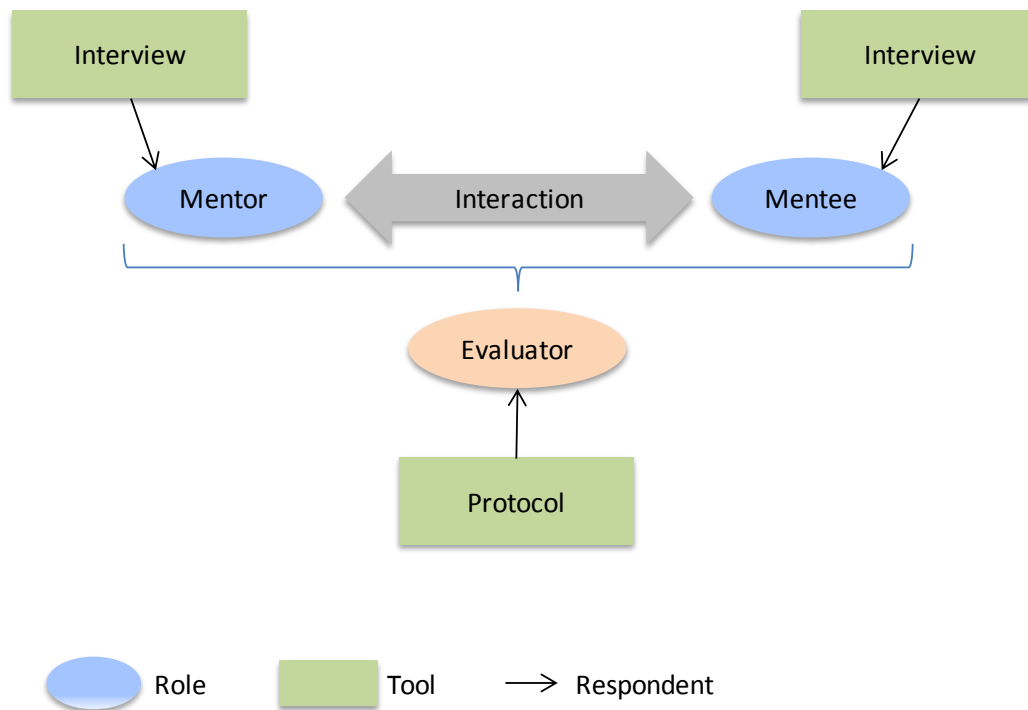


Table 3 – Learning Objectives and Mentors’ Activities

Steps	Learning Objectives	Mentors’ Learning Activities
1	Understanding the key skills of practice Reading and discussing text Framing good practices Understanding the importance of these skills	Listing skills What skills were identified
2	Begin analysis & appreciation of key skills Intuitive learning of the skills that need improvement Observing videos with contrasting levels of effectiveness Discussing videos to identify areas of improvement and contrast	Listing skills needing improvement What skills were identified
3	Develop skills and competencies through hands on activities Applying the skills in <u>role play</u> Understanding the skills by doing it instead of simply knowing it	Learning how to apply knowledge in practice <u>Role play</u> to practice skills
Practice session with mentees	Practice in the classroom Applying the skills in the classroom Mastering the skills by doing it instead of simply understanding it	Instructors do informal check-in with mentors What skills previously identified are being practiced in the classroom?
4	Structured inquiry process Analyzing skills practiced in the classroom Identifying <u>skills</u> that are more effective and less effective Final reflection	Co-design Product:- Instructors and mentors finalize the identification of key skills and create a guideline of how this looks in the classroom

3.3 Data Types

Research conducted through Design Development allows researchers to assess the design's impact and investigate the process of the design implementation in order to be able to evaluate the relationship between outcomes and how these were influenced by the process.

The data points recorded for this study were the following:

- A total of 45 observation protocol surveys were recorded for this study (five observations for three modules at three points in time as follows: pre-intervention, post-intervention, and three months after intervention was completed)
- A total of 45 mentor interviews were conducted (five mentor interviews for three modules at three points in time as follows: pre-intervention, post-intervention, and three months after intervention was completed)
- A total of 45 mentee interviews were conducted (five mentee interviews for three modules at three points in time as follows: pre-intervention, post-intervention, and three months after intervention was completed)
- A total of 15 mentor reflections were conducted (five mentor reflection for three modules during post-intervention)

3.3.1 Impact Data

Outcome data are used to determine the effectiveness of the intervention (a summative perspective). Desirable attributes of impact data include low inference, quantitative nature, clearly observable changes, and ease of collection.

Baseline data are the type of impact data used to set a reference prior to the implementation. It must be standardized to ensure that the measurement can be replicated after the intervention is completed.

In this study impact data captured characteristics of three areas of change: relationship building, instructional support, and oral language and vocabulary skills. For each of them I evaluated the status of the interactions between mentors and mentees, mentors' abilities and behaviors, and mentees' perspective on mentors. The interactions between mentors and mentees were assessed with categorical (i.e. quantitative) metrics co-designed by the instructors and the researcher via observation protocols. A third party performed the observations and assigned corresponding values to the metrics. Later, as the researcher, I used the rubrics found in Appendices 6 to 9 to assess mentors competence. In all three cases there was a pre-intervention baseline and a post-intervention outcome.

The interviews of mentors and mentees, although focused on process data acquisition (see next section), included a similar categorical assessment of the mentor's skills. I utilized this information as impact data too to get different perspectives on the level of progress by the mentor. Specifically, the mentor self assessment, often used as the evaluation approach in many other studies given its simplicity, is contrasted against the mentee's assessment of his/her mentor, for a less subjective evaluation. Even though the observation protocol discussed above has a different evaluation based on a rubric applied to a third party observation, it can be juxtaposed to the mentor and mentee assessments, thereby synthesizing a richer view of impact data.

I also examined in a different way whether the training provided in this intervention improved the skills that mentors need to effectively work with mentees. While developing the practice guideline I applied a design within a design element with mentors and instructors acting as co-designers of final work product. More than anything else the mentor practice guideline reflects the level of progress of the mentors themselves.

3.3.2 Process Data

Process data are used to evaluate the progress during the different stages of the implementation of the intervention (a formative perspective). These data tend to be more qualitative than impact data given the complex nature of the change process from the intervention.

Whereas impact data focus on the changes in behavior and other targets of the intervention, process data focus on the why and how those changes were happening. Moreover, the systematic collection of process data enables explanations of impact. In fact, the rigor of the study highly depends on the researcher's ability to make logical and feasible connections between impact and process data. This enables drawing inferences that explain changes in impact metrics. At the same time process data do not need to be completely standardized since the researcher may have some flexibility to adjust the intervention while observing the development of the outcomes.

In this study process data consisted of mentors and mentees interviews as well as mentor reflections, all conducted or led by third parties. These interviews and reflections, voice-recorded and transcribed, were qualitative in nature detailing direct (by mentors) and indirect (by mentees) observations of the change process.

Table 4 summarizes both the tools and the data related to the intervention and the research efforts.

Table 4 – Tools and Data for Intervention and Research

Module	Tool	Tool Type	Captured Data Type	Data Captured with				Other Output Captured with	
				Module 0	Paper Records	Paper Records & SM Results in Excel	Voice Recording & VB Transcript	Module 4	Paper Records
Pre-Intervention	Mentor Interviews	Research	n/a	10 (2 per mentor)	1				
	Classroom Observations	Research	n/a						
	Lectures	Intervention	n/a						
Relationship Building	Classroom Practice Protocol	Intervention	n/a						
		Research	Impact						
	Mentor Interviews	Research	Impact & Process			15 (5 mentors x 3 times)			
	Mentee Interviews	Research	Impact & Process			15 (5 mentors x 3 times)	15 (5 mentors x 3 times)		
	Reflections	Research	Process			15 (5 mentors x 3 times)	15 (5 mentors x 3 times)		
Instructional Support	Effective Practices / Non Lectures	Intervention	n/a			5 (5 mentors x 1 time)		2	
	Classroom Practice Protocol	Intervention	n/a						
		Research	Impact						
	Mentor Interviews	Research	Impact & Process			15 (5 mentors x 3 times)			
	Mentee Interviews	Research	Impact & Process			15 (5 mentors x 3 times)	15 (5 mentors x 3 times)		
Oral Language	Reflections	Research	Process			5 (5 mentors x 1 time)		2	
	Effective Practices / Non Lectures	Intervention	n/a						
	Classroom Practice Protocol	Intervention	n/a						
		Research	Impact						
	Mentor Interviews	Research	Impact & Process			15 (5 mentors x 3 times)			
Co-Design	Mentee Interviews	Research	Impact & Process			15 (5 mentors x 3 times)	15 (5 mentors x 3 times)		
	Reflections	Research	Process			15 (5 mentors x 3 times)	15 (5 mentors x 3 times)		
	Effective Practices / Non Lectures	Intervention	n/a			5 (5 mentors x 1 time)		2	
	Mentoring Practice Guideline	Research	Impact						1

3.4 Study Participants

The organization where the challenges were addressed (and thus where the intervention was implemented) was MC CDC Lab School. The subjects were the mentor teachers that work with mentees during the school year. Currently Mission College has ten teachers in the CDC training program but only five of them have assigned mentoring responsibilities. The other five teachers are co-leaders in the classroom and although their job description does not entail mentoring responsibilities, they often work with the mentees in the classroom. For the purpose of this study, all ten teachers were part of the intervention in order to improve the quality of teaching across the board at MC CDC. Given the unique nature of this type of training this small sample constituted the entire set of participants in this study.

3.5 Unit of “Treatment”

We choose as the unit of “treatment” actors in whom we expect to see change. Examples include individuals, groups of individuals, organizations and so on. In this study I wanted to change the skills, behaviors, and perceptions of mentor teachers who were the proximate actors in our context. These three attributes were also evaluated by distal actors, who included mentees and third party observers, in order to mitigate biases.

3.6 Data Collection Strategies and Analysis

I conducted the data using the same tools at every point in time. For interactions between mentors and mentees I used categorical evaluations in observation protocols. Data were captured using questionnaires with Likert scales. These relied on quantitative metrics and sampling principles to ensure consistency and reduce bias. Since the data sample included five participants it was not possible to use techniques to conclusively determine whether the intervention had altered or not the categorical metrics.

Mentors’ abilities and behaviors and mentees’ perspective on mentors were also assessed via interviews conducted by third parties. These qualitative methods instead focused on interpreting answers and categorizing them into mutually exclusive and exhaustive groups, considering pre and post intervention stages (Creswell, 2007).

3.7 Reliability, Validity, Transferability, and Rigor

This design has been guided by theory (research procedures) and standardized metrics so that the design can maintain the highest degree of reliability, validity, transferability, and rigor to assess the intervention’s influence on mentors achieving the desired outcomes.

Reliability is the degree to which an assessment tool produces stable and consistent results. My intent was the replication of this design in other design development efforts. For this reason I developed protocols for the implementation of the intervention, observations, interviews, and data capture and analysis that others can follow. The data collection points in time were also carefully pre-determined and pre-specified and were narrow in nature.

Validity refers to how well a test measures what it is purported to measure. I strived to make well founded and logical connections among concepts, observation, and conclusions and verify that they accurately matched the real world. The high bar of this

design was our ability to achieve “internal validity”, in other words, in finding that the design supports claims on causal relationships. This implies that the study evolved according to a pre-defined plan, that logical constructs were robust, and that clearly identifiable elements of the intervention influenced the process of change (with process data) and the subjects of the change (with impact data).

I was not able to generalize the conclusions and findings of this study given the small sample of participants and the unique conditions of the environment at MC CDC. However, this design should be transferable to similar contexts where researchers can draw similar exercises.

As a final point, I addressed the risk of bias (i.e. the chance that the researcher performing the study influences the results, in order to portray a certain outcome) by separating the design and implementation roles from the evaluation roles (Patton, 1990 and Stake, 2006). In this study some MC DCD instructors and MC CDC mentors were designers and implementers whereas a third party consultant acted as independent evaluator.

4.0 Results, Analysis, and Findings

In the following sections I will describe the data captured during the field exercise before and after the intervention, and provide an analysis of the results while highlighting some findings.

This first section will introduce summary tables with the results of the observation protocols and the ratings given to mentors during interviews. This section will rely on categorical data and their manipulation to elicit observations. In the second section I will introduce each of the five the mentors, individually, and present observations of the mentor and mentee interview responses organized sequentially. In the final section, I will review the results of the group of five mentors, all together, considering not only the observation protocols but also the individual interviews. The reflection worksheets, filled out by each mentor during the lectures, will add additional context and motivations for some interview responses.

4.1 Summary of Categorical Data (Impact Data Analysis)

4.1.1 Summary of Protocol Results and Interview Assessments

Table 5 compares changes made over time for each mentor in each of the modules using three different reference points. The reference points include the third party's observation of the skill and behaviors, the mentor's own perception of her own skill through their own assessment during interviews, and the mentees' assessment of their mentor's skill during their interviews.

By using these three different points in time we also intend to get a better understanding of the sequence of changes in skills and behaviors and the events that may have influenced them. The first point is the pre intervention stage (T1) or initial status quo; the second point is the post intervention stage (T2) that informs skill building through direct classroom instruction and reflection sessions; and the final point is stage (T3) that informs whether mentors improved skills through practice with their mentees and study of videotaped best practices.

The results of the observation protocols captured by a third party observer are presented in Table 5 after the application of the rubrics defined in Appendices 6 to 9. The values of the assessments in the mentor and mentee interviews are taken directly from the interviewees. All assessments use the same rating scale of 1-4, with 1 representing "low" and 4 representing "very high", rating the mentor's ability in the specified skill area. All names have been changed in order to protect participant anonymity.

Table 5 – Summary of Protocol Results and Interview Assessments

	M1			M2			M3			M4			M5		
	T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
Protocol - Relationship Building	Fair	Exceed	Pass	Fair	Exceed	Exceed	Fail	Fail	Fair	Exceed	Pass	Fair	Fail	Fail	Fair
Mentor Interviews - Relationship Building	4	4	4	3	3	4	4	4	4	2	3	3	3	4	3
Mentee Interviews - Relationship Building	4	3	4	4	3	4	3	3	4	3	4	4	3	3	4
Protocol - Instructional Support	Pass	Fair	Pass	Fair	Exceed	Pass	Fail	Fail	Fail	Exceed	Exceed	Fair	Fair	Fail	Fair
Mentor Interviews - Instructional Support	2	2	3	3	4	3	3	3	4	3	3	3	3	3	4
Mentee Interviews - Instructional Support	2	4	3	4	3	4	3	2	4	3	4	4	3	2	4
Protocol - Oral Language	Fair	Exceed	Fail	Fair	Pass	Fail	Fair	Fail	Fair	Pass	Exceed	Fair	Fail	Fair	Fair
Mentor Interviews - Oral Language	3	3	2	3	2	3	3	4	3	3	3	2	3	2	1
Mentee Interviews - Oral Language	4	4	2	3	2	1	3	1	3	4	4	4	2	2	3

Note: T1, T2 and T3 correspond to the different points in time for data capturing: T1 = pre-intervention, T2 = post-intervention and T3 = post-practice period.

4.1.2 Summary of Total Change in Protocol Results over Time

Table 6 presents direction of change in the skill level of each mentor over time. When the assessment moved to a higher tier in the rubric I considered that the mentor “improved”; if the mentor’s assessment was similar to the one in the prior stage I considered it to be the “same”; and when the mentor’s assessment moved to a lower tier in the rubric I considered that the mentor’s skill “degraded”.

Table 6 has three sections corresponding to each of the modules. Each section shows the improvements of all five mentors in the two areas of expertise that define the module, and the changes in the module itself.

For example, the first section of Table 6 shows the changes in the areas of expertise of relationship building (i.e. effective communication and timely support). Effective communication had two mentors showing improvements from T1 to T3, two mentors showed no changes, and one mentor showed degraded skills from T1 to T3. Their corresponding frequencies are then 2 chances of improvement, 2 of staying the same, and 1 of degradation. Therefore, the probability of seeing improvements is 0.4 (or 40%), of seeing no changes 0.4 (or 40%), and witnessing degradation of skills of 0.2 (or 20%). Similarly, timely support, the second area of expertise had four mentors showing improvements from T1 to T3 and one mentor showing degraded skills from T1 to T3. Their corresponding frequencies are then 4 chances of improvement, 1 of staying the same, and none of degradation. Therefore, the probability of seeing improvements is 0.8 (or 80%), of seeing no changes 0.2 (or 20%), and witnessing degradation of skills of 0. Finally, the module on relationship building had four mentors showing improvements from T1 to T3 and one mentor showing degraded skills from T1 to T3. Their corresponding frequencies are then 4 chances of improvement, 0 of staying the same, and 1 of degradation. Therefore, the probability of seeing improvements is 0.8 (or 80%), of seeing no changes 0, and witnessing degradation of skills of 0.2 (or 20%).

Overall changes in each of the three modules are presented in Table 6 after calculating the frequency and probability of change based on the different combination of sequences in the rubric “excellent”, “good”, “fair”, “pass” and “poor”.

Table 6 – Summary of Total Change in Protocol Results (T1 to T3)

	Effective Communication			Timely Support			Reciprocal Feedback			Identification of Deficiencies		
	Impact	Frequency	Prob	Impact	Frequency	Prob	Impact	Frequency	Prob	Impact	Frequency	Prob
	↑	2	0.4	↑	4	0.8	↑	0	0.0	↑	1	0.2
	→	2	0.4	→	1	0.2	→	2	0.4	→	3	0.6
	↓			↓	1	0.2	↓	3	0.6	↓	2	0.4
Timely Support												
	↑	4	0.8	↑	2	0.4	↑	2	0.4	↑	1	0.2
	→	1	0.2	→	2	0.4	→	2	0.4	→	3	0.6
	↓			↓	1	0.2	↓	1	0.2	↓	1	0.2
Relationship Building												
	↑	4	0.8	↑	1	0.2	↑	1	0.2	↑	1	0.2
	→	0	0.0	→	2	0.4	→	2	0.4	→	1	0.2
	↓	1	0.2	↓	2	0.4	↓	2	0.4	↓	3	0.6
Instructional Support												
	↑	4	0.8	↑	1	0.2	↑	1	0.2	↑	1	0.2
	→	0	0.0	→	2	0.4	→	2	0.4	→	1	0.2
	↓	1	0.2	↓	2	0.4	↓	2	0.4	↓	3	0.6
Fostering Practice												
	↑	4	0.8	↑	2	0.4	↑	2	0.4	↑	1	0.2
	→	1	0.2	→	2	0.4	→	2	0.4	→	3	0.6
	↓	1	0.2	↓	1	0.2	↓	1	0.2	↓	1	0.2
Oral Language												
	↑	4	0.8	↑	1	0.2	↑	1	0.2	↑	1	0.2
	→	0	0.0	→	2	0.4	→	2	0.4	→	1	0.2
	↓	1	0.2	↓	2	0.4	↓	2	0.4	↓	3	0.6

Note: T1, T2 and T3 correspond to the different points in time for data capturing: T1 = pre-intervention, T2 = post-intervention and T3 = post-practice period.

4.1.3 Protocol Results with Holistic Rubric and Interviews Assessments

Table 7 compares assessments of different mentors associated to each module (relationship building, instructional support, oral language and vocabulary) and their related areas of expertise over time. This table expands the information in Table 5 to provide a mentor specific set of results.

Table 7 – Protocol Results with Holistic Rubric and Interviews Assessments

M1

	T1	T2	T3
Effective Communication	Fair	Good	Fair
Timely Support	Fair	Good	Good
Protocol - Relationship Building	Fair	Exceed	Pass
Mentor Interviews - Relationship Building	4	4	4
Mentee Interviews - Relationship Building	4	3	4
Reciprocal Feedback	Good	Good	Fair
Fostering Practice	Fair	Poor	Good
Protocol - Instructional Support	Pass	Fair	Pass
Mentor Interviews - Instructional Support	2	2	3
Mentee Interviews - Instructional Support	2	4	3
Identification of Deficiencies	Poor	Good	Poor
Modeling Skills	Good	Good	Poor
Protocol - Oral Language	Fair	Exceed	Fail
Mentor Interviews - Oral Language	3	3	2
Mentee Interviews - Oral Language	4	4	2

M3

	T1	T2	T3
Effective Communication	Poor	Poor	Poor
Timely Support	Poor	Poor	Fair
Protocol - Relationship Building	Fail	Fail	Fair
Mentor Interviews - Relationship Building	4	4	4
Mentee Interviews - Relationship Building	3	3	4
Reciprocal Feedback	Poor	Poor	Poor
Fostering Practice	Poor	Poor	Poor
Protocol - Instructional Support	Fail	Fail	Fail
Mentor Interviews - Instructional Support	3	3	4
Mentee Interviews - Instructional Support	3	2	4
Identification of Deficiencies	Poor	Poor	Poor
Modeling Skills	Fair	Poor	Fair
Protocol - Oral Language	Fair	Fail	Fair
Mentor Interviews - Oral Language	3	4	3
Mentee Interviews - Oral Language	3	1	3

M2

	T1	T2	T3
Effective Communication	Fair	Good	Good
Timely Support	Fair	Good	Good
Protocol - Relationship Building	Fair	Exceed	Exceed
Mentor Interviews - Relationship Building	3	3	4
Mentee Interviews - Relationship Building	4	3	4
Reciprocal Feedback	Fair	Good	Fair
Fostering Practice	Fair	Good	Good
Protocol - Instructional Support	Fair	Exceed	Pass
Mentor Interviews - Instructional Support	3	4	3
Mentee Interviews - Instructional Support	4	3	4
Identification of Deficiencies	Fair	Fair	Poor
Modeling Skills	Poor	Good	Poor
Protocol - Oral Language	Fair	Pass	Fail
Mentor Interviews - Oral Language	3	2	3
Mentee Interviews - Oral Language	3	2	1

M4

	T1	T2	T3
Effective Communication	Good	Fair	Poor
Timely Support	Good	Good	Good
Protocol - Relationship Building	Exceed	Pass	Fair
Mentor Interviews - Relationship Building	2	3	3
Mentee Interviews - Relationship Building	3	4	4
Reciprocal Feedback	Good	Good	Fair
Fostering Practice	Good	Good	Poor
Protocol - Instructional Support	Exceed	Exceed	Fair
Mentor Interviews - Instructional Support	3	3	3
Mentee Interviews - Instructional Support	3	4	4
Identification of Deficiencies	Fair	Good	Poor
Modeling Skills	Good	Good	Good
Protocol - Oral Language	Pass	Exceed	Fair
Mentor Interviews - Oral Language	3	3	2
Mentee Interviews - Oral Language	4	4	4

M5

	T1	T2	T3
Effective Communication	Poor	Poor	Fair
Timely Support	Poor	Poor	Fair
Protocol - Relationship Building	Fail	Fail	Fair
Mentor Interviews - Relationship Building	3	4	3
Mentee Interviews - Relationship Building	3	3	4
Reciprocal Feedback	Fair	Poor	Poor
Fostering Practice	Fair	Poor	Fair
Protocol - Instructional Support	Fair	Fail	Fair
Mentor Interviews - Instructional Support	3	3	4
Mentee Interviews - Instructional Support	3	2	4
Identification of Deficiencies	Poor	Poor	Poor
Modeling Skills	Poor	Fair	Fair
Protocol - Oral Language	Fail	Fair	Fair
Mentor Interviews - Oral Language	3	2	1
Mentee Interviews - Oral Language	2	2	3

Note: T1, T2 and T3 correspond to the different points in time for data capturing: T1 = pre-intervention, T2 = post-intervention and T3 = post-practice period.

4.1.4 Group Ratings of Competencies for Areas of Expertise

Charts 1, 2, and 3 present the competency results underlying the multiple assessments of each of the areas of expertise for each of the modules. For example, the area of relationship building comprises skills for effective communication and timely support. In turn, each of them includes lower level skills and behaviors, called competencies. For instance, timely support is composed of level of support, level of cooperation, and providing advice. The competencies with an * indicate they are critical to master the overarching skill.

Chart 1 – Group Ratings of Competencies for Area of Relationship Building

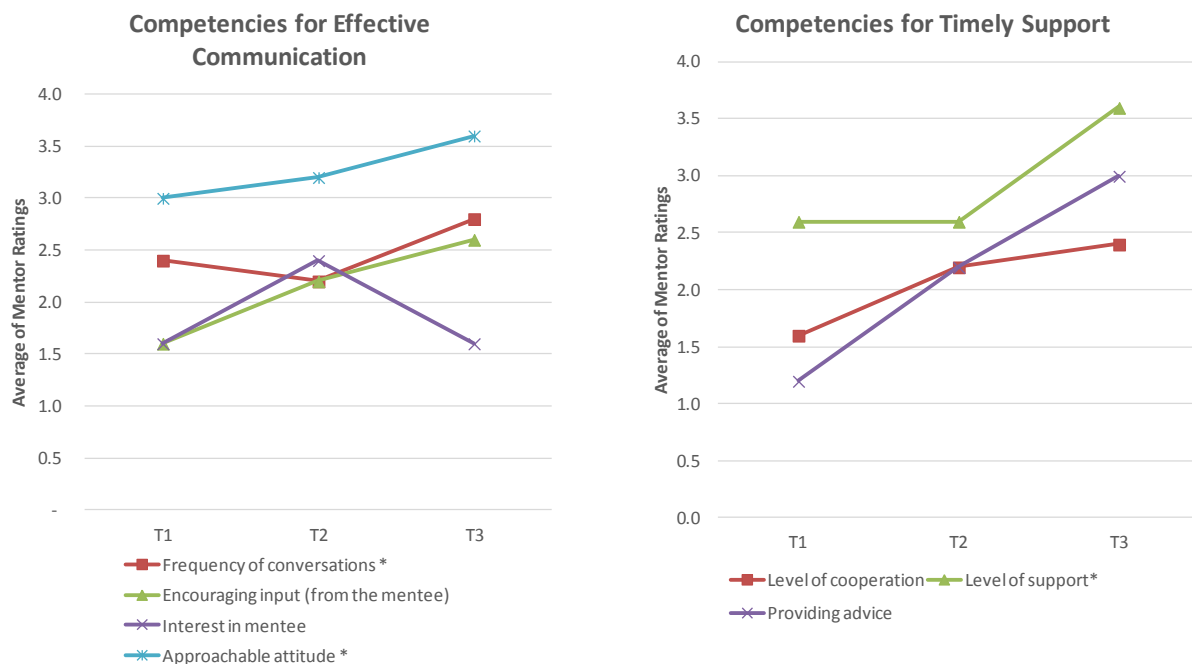


Chart 2 – Group Ratings of Competencies for Area of Instructional Support

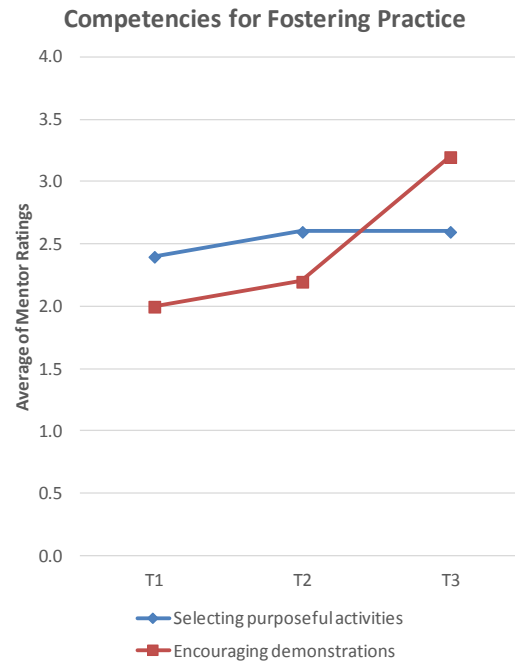
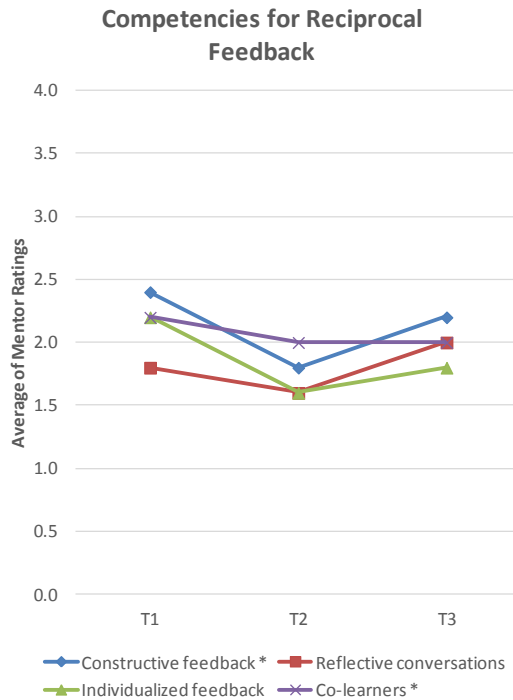
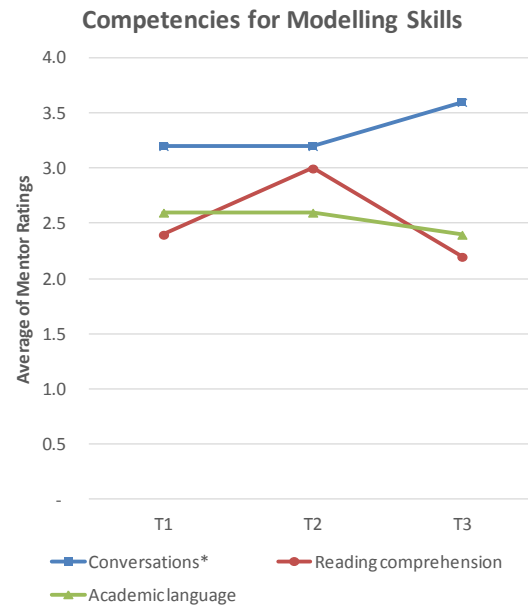
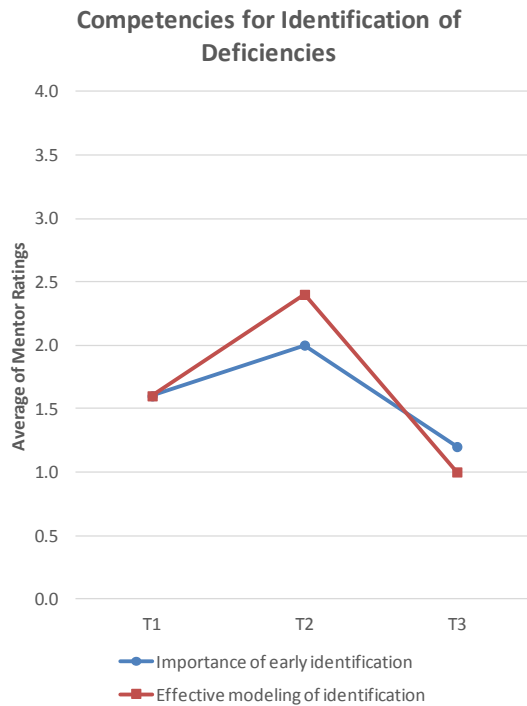


Chart 3 – Group Ratings of Competencies for Area of Oral Language



Note: T1, T2 and T3 correspond to the different points in time for data capturing: T1 = pre-intervention, T2 = post-intervention and T3 = post-practice period.

4.2 M1 (Process Data Analysis)

4.2.1 Mentor's Background

Mentor M1 has been working as a mentor teacher at MC CDC for the last ten years and her responsibilities include preparing students to acquire solid practical experience to work with children from different age groups. Before working at MC CDC, M1 spent one year working as a substitute teacher and three years in a non-profit organization that prepares children from preschool to school age. M1 studied at West Valley College in California and still needs four more units of coursework to complete her A.S. degree in Child Development. She still plans to complete her degree in the near future. M1 was born in Sweden where she obtained a business degree and worked for several years as a patient relationship representative in the health care industry and as public relations consumer affairs representative. M1 has lived in many countries, fluently speaks four different languages, and currently holds a Site Supervisor permit from the state of California.

During the surveys conducted in the preliminary needs assessment M1 was identified as one of the individuals who showed some understanding of their role as a mentor. She communicated some of the strategies needed to work with students, such as role modeling, observing and supporting their needs and encouraging reflective conversations. In particular for oral language and vocabulary skills in children, M1 mentioned listening to children's conversations, slowing down when talking to children, doing book reading, and asking open ended questions to expand skills.

4.2.2 Relationship Building

Mentor's Perspective

Before the classroom instruction (T1) M1 stated some of the difficulties entailed when working with adults and felt confident about being able to build relationships. In particular, she mentioned the need for communication, being approachable, and encouraging mentees' opinion. M1 was also aware that her communication style is mostly unidirectional, that she as the mentor was doing most of the conversation. M1 also mentioned the need to understand students' learning style and level of experience, and to know how to provide feedback in a positive way without discouraging them.

After the classroom instruction (T2) M1 continued to feel confident about her ability to build strong relationships with her mentees. However, M1 continued to struggle in her ability to have conversations that are bi-directional with mentees. This mentor emphasized the need for collaborative relationships and her ability to show trust with her mentees. The mentor also demonstrated ability to pose different questions that are supportive of the mentees' learning process. The observation protocol confirmed her impression.

When M1 started working with a new group of mentees (T3) she was able to provide more detailed information on how she started building relationships with her mentees. From the beginning M1 met with her mentees to get to know each other and share personal information. This helped her to better understand mentees' level of experience working with children and how she could support mentees' learning. She actually mentioned making connections with individual mentees regarding countries that they both had traveled to and foods and movies that they liked. This gave her a sense of

being a “co-learner”². M1 shared the challenges of building a relationship, which include the short period of time of the mentoring process (16 weeks) and the cultural barriers such as students being more reserved and looking at mentors as authoritative figures. Eliciting responses from students was also part of the cultural barriers faced. M1 encouraged mentees to bring ideas to the classroom which she considers an essential part of their learning process.

Finding: M1 does not seem to understand the concept of co-learners (T3) and mistakenly interpreted it as having common interest with her mentees.

Finding: Main barriers to relationship building include short periods of mentoring (16 weeks), cultural barriers, and having supervisory roles.

Mentee’s Perspective

Before classroom instruction (T1) mentee (S3) ranked her mentor M1 as highly skilled in building a relationship with her. Mentee felt that mentor trusted her when interacting with children. M1 often had conversations with mentees and provided clarification when needed. Mentor allowed mentee to come up with ideas and activities in the classroom, was always there to support her, and offered strategies to use in the classroom. Mentee S3 felt she was valued and felt comfortable trying out different things since mentor provided support when learning a new skill.

At the end of the classroom instruction (T2) mentee (S4) mentioned that mentor offered more guidance than when she initially started her practicum. Mentor pointed out the skills children were learning since mentee was only in the classroom once a week, and engaged mentee in conversations. Mentee felt comfortable around her mentor and able to complete many of the tasks in the classroom. Although mentor used some reflection, she commented on specific things mentee did in the classroom and provided suggestions on how to do it differently. Mentee and mentor had continuous conversations throughout the day but mentor initiated most of them.

After the classroom training for mentors (T3) mentee (S30) felt very comfortable with her mentor M1 and was able to build a relationship with her. Mentee felt mentor’s feedback allowed her to reflect on the skills and tasks that she was trying out in the classroom while improving at her own pace. Mentee was at the stage that she felt the relationship with her mentor was beneficial but limited since her contributions were constrained by her lack of experience and communication³. Mentee indicated that there was mutual respect between them.

Finding: M1 shows ability to get to know their mentees and to tailor her approach to their specific learning needs.

M1 was identified as a strong mentor at the initial stages of this intervention, she showed a deeper understanding of the skills needed to build relationships with mentees along the intervention process, and was able to maintain the skills months after the intervention had been conducted. In particular, M1 gained from her reflective approach and her ability to better understand the level of experience of the mentee.

² Notice that co-learning is an Instructional Support competency but the interviewee mentioned it during an interview about Relationship Building.

³ Notice mentee was in her first month of her practicum.

Finding: Data collected during classroom observation protocols together with mentor and mentee skill perceptions corroborated the effectiveness of the training in relationship building for M1.

4.2.3 Instructional Support

Mentor's Perspective

M1 rated herself low in giving useful feedback before the classroom instruction (T1). She was challenged by the daily activities of a busy classroom with children and often forgot that mentees were also there and needed her time too. Mentor found it challenging to gauge mentees' level of experience and knowledge and she sometimes needed to slow down realizing that mentees were new to the job. Mentor used a reflective approach to guide mentees on how things are done in the classroom. Her feedback centered on classroom management or on things that mentees were interested in knowing or doing.

Finding: M1 could work more effectively with mentees that had more knowledge and experience in the field.

Finding: M1 geared her approach to learning based on mentees interests and goals.

After the classroom instruction (T2) M1 still found it hard to point things out for students in the classroom. M1 was busy with children and it constrained her time with the students. Although M1 was aware that students needed to understand why and what the mentor was doing she still felt that she did not approach students often.

M1 continued to use reflective conversations as a vehicle to promote student learning. M1 used theory to connect practice in the classroom so that students could make connections. M1 seemed to be able to better understand student's level of knowledge and experience based on those conversations. She then took it from that initial point and expanded learning. In particular, if mentees were new to the field, mentor tried not to overwhelm them while driving individualized and gradual learning.

M1 also used a strategy presented in the mentor training where mentors model at first and then let mentees demonstrate the skill, while coaching them along the way using reflective conversations. Assignments in the classroom seemed to be more purposeful and selective such as adapting the environment to the needs of the children. M1 appreciated when mentees shared their knowledge because she learned from them new ideas and refreshed her knowledge.

Finding: M1 struggled to master the area of instructional support after the initial in classroom training while showing all the qualitative elements that were expected to improve.

At the time of final assessment (T3) M1 outlined the steps she used when working with her mentees: modeling, letting mentee demonstrate a skill, observing the demonstration, and providing feedback. Mentor indicated that together with each mentee they had established a method to give each other feedback, using reflective conversations and avoiding more directive instructions. M1 mentioned this was an area where she needed to improve, indicating her role as being a "coach". M1 specifically mentioned her emphasis on close observation and targeted and timely comments to the mentee. In terms of activities, M1 brainstormed with mentees on areas that they would like to explore and gave them opportunities to choose what they would like to do in the classroom.

M1 let each mentee demonstrate his/her activity and slowly stepped back to let him/her fully control their activity. In terms of sharing knowledge between mentor and mentee, M1 mentioned trying new approaches. Mentor pushed mentees to think out of the box by selecting a child that they were interested in and discussing his/her needs and finding ways to support and expand the activities to meet those needs. Mentor said this approach gathered knowledge from her mentees.

Finding: There is a delay in seeing the results of the unlearning plus learning process, as perceived by the mentor and the observation protocol.

Mentee's Perspective

Before the classroom instruction (T1) mentee (S4) was not very satisfied with the way her mentor gave useful and constructive feedback. Some of the challenges mentioned in the classroom included low staffing and students who are English language learners and do not understand very well the language. Mentee indicated that mentor was very supportive when discussing an activity or implementation.

After the classroom instruction (T2) mentee (S4) ranked her mentor as very effective in providing useful and constructive feedback to her mentee. Mentor engaged mentee in conversations while in the classroom but staffing constraints did not allow them to meet one on one. Mentee felt she was learning from her mentor. Mentee described her mentor as being genuinely interested in the children in the classroom. M1 was good at providing individualized feedback and mentee felt mentor understood her needs. Mentee valued that mentor let her lead her activities the way she wanted while at the same time supported her through the process.

Month's later (T3) mentee (S30) believed her mentor gave her useful and constructive feedback and they had relevant conversations when classroom activity was not as hectic. Mentor would discuss with mentee specific things she observed mentee doing during the activity. Mentee was able to take charge of the activities that she wanted to do in the classroom. Mentee acknowledged that mentor had also learned from her through conversations and overall this has had a positive impact on mentor's learning because mentor had changed her approach in the classroom.

Finding: Mentees were quicker to notice a change in M1's performance than the mentor herself.

4.2.4 Oral Language and Vocabulary Skill Development

Mentor's Perspective

Prior to the classroom instruction (T1) M1 was working on improving her ability to do self talk using descriptive words and model more often to students. M1 sometimes forgot that students were in the classroom although often tried to have them join the classroom and modeled the skills for them.

After the classroom instruction (T2) M1 emphasized the type of communication skills in children that mentees' need to learn to listen and observe. Mentor invited mentees to sit next to a child and engage in play with him/her. Later mentor held conversations with mentees to share their observations. Mentor modeled conversation strategies and expansion of language while doing an activity with children. Mentee was watching the

mentor and started to participate in the activity. Mentor slowly started to let mentee take the initiative and demonstrate her skills.

M1 used similar strategies when modeling reading comprehension skills by using familiar words and making connections with the images of the books and extending the use of words and putting them in context within their environment. In order to model academic language and concepts, mentor used position words when working with young children. Mentor modeled stressing the words learned in every opportunity during the day.

A couple of months after the intervention (T3) M1 did continue mentioning similar activities related to detection but did not list or emphasize any pedagogical strategy. M1 reported being very busy in the classroom with many other issues to worry about and thus this area was one more in her list. She did not give a clear answer as to why she rated herself as low in competency for oral language and vocabulary skills in children but the above implies some awareness of this skill being lower in her priorities.

Finding: M1's ability to focus on teaching oral language and vocabulary skills was severely hindered by the number of responsibilities and thus this area received a lower priority.

Mentee's Perspective

Before the classroom instruction (T1) mentee (S3) indicated that mentor showed her how to use a lot of language in the classroom especially with young children. In particular mentor emphasized talking and reading books with children. Mentee learned from mentor to say words aloud and try to expand vocabulary using new words.

After the training (T2) mentee (S4) discussed concerns with one particular child and mentor asked mentee to continue to observe that child since they all develop at their own pace. Mentor shared strategies with her mentee on how to use open ended questions and she modeled how to converse with the children. Mentor modeled conversations with children by speaking slowly and probing children. Mentor shared with mentee the need to verbalize all the motions, actions and routines in the classroom especially when reading a book to children.

A couple of months after the intervention (T3), mentor pointed out some of the children who showed some deficiencies. Mentor shared with the mentee (S30) the conversation she had with parents to better understand the children's abilities at home. Mentor referred to developmental stages and possible factors that are affecting language development. Mentee mentioned how mentor modeled conversation strategies with children. Mentor specifically pointed out ways for this to be done. However S30 said that M1 "gives me reasons why they may not be talking but not very many strategies given. M1 was rated 'average' by S30 in this skill area.

Finding: Mentee seemed to get some knowledge from her mentor but very few practical pedagogical strategies to use in oral language deficiency detection.

4.3 M2 (Process Data Analysis)

M2 has been working as a mentor teacher at MC CDC for the past 8 years. Prior to this, she worked at a private child development center for 11 years. M2, originally from Arkansas, holds a B.A. in Child Studies from West Valley Community College in California and a M.A. degree in Human Development from Pacific Oaks College. M2 currently holds a Program Director permit from the state of California.

4.3.1 Relationship Building

Mentor's Perspective

Before classroom instruction (T1) M2 indicated that she often forgot about the students in the classroom because she was always busy dealing with children. Mentor felt that she worked collaboratively with her mentees by letting them implement activities, and partially used reflective conversations and suggestions on how to do things differently after the activity has come to completion. M2 reinforced through informal conversations the positive accomplishments that mentees achieve in the classroom. Moreover, during formal meetings she spent more time developing these concepts.

M2 indicated that she was trying to improve communication and get more input from her mentees because it is challenging for her to interact with three mentees simultaneously. M2 found herself having to bring her mentees back to do purposeful activities in the classroom instead of wandering around. M2 was aware of when to support her mentees in case they were struggling, but also tried to give mentees full ownership of what they were doing in the classroom. M2 also showed awareness of her limitations by indicating that during this semester she had a mentee for whom she had preconceptions. It was a struggle to relate to this person and build a connection.

After the classroom instruction (T2) M2 indicated that she really tried to get to know her mentees, a skill that was stressed during the training. M2 encouraged her mentees to provide ideas and suggestions such as rearranging the environment. She also asked her mentees to let her know what they wanted to know or learn. However, at times M2 was reluctant to let mentees experiment with changes in the classroom environment. She also continued to have challenges with the flow of communication with her mentees and was aware of the need to improve her ability to listen and build relationships by providing a personal space. M2 mentioned that mentees valued her feedback but no evidence was mentioned to support this.

Finding: M2 seems much more aware of the skills needed to build relationship with her mentees but continues to struggle in some areas.

After the classroom instruction (T2) M2 bounced ideas with her mentees and they tried to come up with activities together. She showed them the use of reflective questioning. M2 still found it hard to collaborate with certain students because of language barriers among non-native English speakers. M2 had a set of pre-established expectations from her mentees and it was difficult for her to accept that students come with lower levels of knowledge. Thus two way communications for M2 seemed challenging.

M2 found it hard to have so many students in the classroom while trying to manage the environment. M2 indicated that she was the only person responsible for solving any problem that surfaced in the classroom. M2 acknowledged that giving mentees freedom to act was not always beneficial and stated that mentees needed some kind of structure and constant feedback. Therefore, building a team with students seemed very challenging. When probed about trusting relationships, M2 stated that mentees have a hard time trusting themselves because most of them are new to the field.

When M2 received a new group of mentees (T3) she continued to be aware of her ideas and biases and how she needed to improve herself in that area. M2 continued finding it hard to relate to the new mentees, especially due to language barriers and cultural

differences. However, M2 was able to master the skills according to the observation protocol.

Finding: M2 mastered the skill area but continued to report several barriers when working with mentees including not being able to overcome her biases.

Mentees' Perspective

Before the classroom instruction (T1) mentee (S9) indicated that M2 took time to sit with her and discuss all sorts of things giving advice on activities that could be done differently. Mentee could communicate with her mentor in very different ways (in the classroom, after practicum, through email, etc). Mentee shared many ideas and input with her mentor, whom she considered approachable, and thus both were able to brainstorm and find ways to do things better.

After the classroom instruction (T2) another mentee (S5) mentioned that she got feedback from her mentor in the classroom and during formal meetings. Mentee could communicate with her mentor about any concern that she had in the classroom related to the children. Mentor followed up later in their conversations about her concerns. Mentee felt her mentor was there to support her during her demonstrations. Mentor also models appropriate practices in the classroom. Mentor and mentee bounce back and forth ideas valuing each other's feedback. Mentee feels that mentor trusts the mentee when interacting with children so Mentee is able to support mentor when needed. Mentor observes mentee while she is interacting and maintains her distance so that mentee can try out new things in the classroom.

Finding: Mentee corroborates M2's ability to master the skills needed to build relationships and a definite quality improvement is recorded after classroom instruction.

Months after the classroom instruction, mentee (S32) mentioned that mentor gives proper support and guidance and they maintain a good relationship. The communication flows back and forth between mentor and mentee. However, mentee felt a certain disconnect with her mentor regarding her beliefs and values. Mentee was told not to initiate hugs with the children and she felt it was not appropriate but did not question her mentor.

Findings: Barriers in values and beliefs can be mitigated by maintaining a communication flow between mentor and mentee.

4.3.2 Instructional Support

Mentor's Perspective

At the initial stage of the intervention (T1) M2 mentioned setting more time to observe mentees and provide positive feedback. At this time most of the conversations between mentor and mentee were done in formal meetings and centered on activities and experiences with the children. M2 assigned different types of activities to mentees in the classroom and was aware that although mentees need to help with chores the main focus was to learn how to interact with children. When probed about sharing decisions in the classroom M2 mentioned that she let people take ownership of things but at times needed to step in and direct the mentee if she was doing something inappropriate.

Once the classroom instruction had been conducted (T2) M2 realized that she needed to meet with mentee and provide her undivided attention. M2 mentioned the use

“why” questions to foster reflection over mentee’s action. However, mentor stated that she had a hard time giving negative feedback and finding areas of improvement.

Mentor reported having more relevant conversations, emphasizing being an active listener, and really thinking about what to say to her mentees that was relevant, individualized, and timely. Mentor provided ample opportunities for demonstration and mentioned that at times mentees needed to mess up or fail to construct their knowledge.

M2 said that she gathered ideas and learned from her mentees but her conversation still focused on her achievements instead of her mentees.

Findings: M2 showed a clear understanding that mentees need to construct their own knowledge.

Months after the classroom instruction (T3) M2 encouraged mentees to ask more questions and gave them time to process their thoughts. Mentor was much more conscious about modeling appropriate behaviors in the classroom. M2 made references to all three mentees, their strengths and weaknesses in each of them, and their different interests. She also became much more reflective about her own actions and how to talk to the students about it.

Finding: Mentor takes a more active role in learning how to work with her mentees.

Finding: One area that seems to be difficult for M2 is how to provide constructive feedback.

Mentees’ Perspective

The first mentee interviewed at the initial stage of the intervention (S7) mentioned that her mentor was quick at giving her feedback by providing ideas of the things mentee could do with the children or work on. Mentor used “why” questions so that mentee could reflect on the things being observed or discussed. Mentee reported not being a participant of the decisions taken in the classroom mainly because her role limited the things that she could do.

After conducting classroom instruction (T2) mentee (S5) stated that her mentor gave her specific strategies on how to interact with children in particular when there was a need to resolve a conflict between children. Mentor provided feedback by giving ideas of what types of activities to do but mentee would have liked to get more feedback on the types of questions she should be asking children. Mentor also provided individualized feedback on the things that mentee needed to improve.

Mentor made mentee reflect and come up with ideas and solutions. M2 also provided mentee with ample opportunities to demonstrate her skills in the classroom. However, mentee felt that she was the main one learning in the classroom.

Finding: “Co-learner” is one of the hardest competencies to develop. It may be influenced by mentor’s original understanding of their role as supervisors.

During the last part of the intervention (T3) mentee (S32) reported that although she did not share the same values with her mentor, mentor helped her realize the importance of play base. Mentor gave mentee a lot of guidance and support in particular when doing an activity and assigned a variety of tasks in the classroom. Mentee brought new ideas to the classroom and mentor adopted some of these ideas.

Finding: Video tapes shown at the end of the classroom instruction seemed to influence mentor’s ability to share and adopt ideas from mentee. M2 shows initial stages of acting as “co-learner”.

4.3.3 Oral Language and Vocabulary Skill Development

Mentor's Perspective

Before the start of the classroom instruction (T1) M2 was not able to verbalize what type of things she was looking for in a child with oral language deficiencies. In terms of strategies, M2 used book reading to facilitate children's language and increase vocabulary.

After the classroom instruction (T2) M2 acknowledged the need for more training in how to identify children with deficiencies and how to convey this to her mentees. M2 believed that more specialized teachers can help them set a better environment with different types of activities to help children with different skills. The training helped her get a better understanding of the needs of children. In regards to modeling reading comprehension skills, M2 mentioned that she needed to work on the post reading discussion as well as supporting more academic language and concepts.

Finding: Training in oral language and vocabulary skills raised awareness on the aspects of deficiencies. However, mentors tended to confuse their role with specialist teachers (for children with special needs).

Months after the classroom instruction (T3) M2 reported that detecting children with deficiencies was very important and felt confident about modeling conversation strategies to mentee. M2 talked about how she guided mentee on how to start with a book and connecting children's interest to the book. M2 was trying to be more intentional about expanding academic language and using new words with children while talking to mentees about it.

Finding: M2 was not able to report specific strategies that could be used in the classroom to support children's language deficiencies. Training on specific strategies was not successful.

Mentee's Perspective

Before the initiation of the classroom instruction (T1) mentee (S7) mentioned that mentor had asked her to observe how children communicate with their body language given that they are still very young and haven't fully developed language proficiency. Mentor modeled how to communicate with children while trying to understand what children are trying to convey. One of the strategies that mentor modeled to mentee was how to use parallel talk (physically demonstrating things while she is talking to children).

After the classroom instruction (T2) mentee (S5) had approached mentor about a child who showed deficiencies in oral language but did not hear from her mentor any strategies to support the deficiencies. Mentee observed mentor's ability to use open ended questions and reading comprehension skills to expand children's language. However, mentee indicated that mentor was not able to elicit questions to engage children in post discussion.

Finding: M2 shows limited ability to demonstrate different strategies in oral language and vocabulary skills after the classroom instruction.

Months after classroom instruction (T3) mentee (S32) observed mentor speaking slowly and repeating words to some children who showed delays in oral language. However, mentor had not stressed the need to identify these children. Mentor used

conversation strategies and reading comprehension skills with limited post discussion and no expansion of academic language.

Finding: Although mentor uses some of the strategies learned in classroom instruction she does not seem to emphasize this developmental area with her mentee. Mentors in general have given much more priority to children's social emotional development.

4.4 M3 (Process Data Analysis)

M3 attended West Valley College and got her A.S. degree in Child Development before starting to work at MC CDC. M3 had been working for almost 14 years at MC CDC. She started as a co-lead teacher, was promoted to lead teacher a year later, and had been acting in this role for the past 5 years. M3 was a native of Vietnam and had been living in the US with her family for 20 years.

4.4.1 Relationship Building

Mentor's Perspective

M3 perceived herself (T1) as able to build a strong relationship with her mentees. M3 stated that even though she did not have her B.A. while her mentees did, they worked in collaboration bringing knowledge and experience together. M3 mentioned being very open to her mentees' suggestions.

Although M3 scored herself high again in building strong relationships (T2), she did not seem to have a clear understanding of the elements learned in the training. M3 mentioned that she always started the conversation with her mentees because they were generally shy. M3s' approach seemed very directive with little emphasis on reflection and sharing knowledge and ideas. M3 found it hard to meet with a mentee outside the classroom and generally met with her during children's nap time. M3 felt she showed interest in her mentee by thanking her and showing respect. M3 felt confident about her ability to build strong relationships; however the observations done in the classroom continued to score her low both in her ability to have effective communication and in providing timely support to her mentee.

At the end of the practice period (T3) M3 seemed to misinterpret the objectives of building a relationship that fosters learning by improving communication (sharing of thoughts and ideas) and providing timely support. M3 mainly referred to the collegial approach that she had with her mentee and the way that they covered each other when family matters arose. M3 concluded that having a healthy relationship with her mentee reduced mentees' stress levels and helped them work with children.

Finding: Very little improvement was recorded (T3) particularly in the area of timely support while effective communication remained steadily poor based on the observations made in the classroom.

Finding: Mentor perceived herself as very capable across time of building strong relationships with her mentees; however this relationship did not seem to sustain learning but rather amicable elements.

Mentee's Perspective

At the beginning of the intervention (T1) mentee (S10) found her mentor to be very personal and tried to include everyone in the classroom. However, mentee found it hard sometimes to relate to mentor's philosophy. M3 supervised children but very rarely shared knowledge on the interactions that children were having in the classroom. Mentor told mentee what to do in the classroom but there was hardly any explanation on why things were done in a particular way. At times mentor did not welcome feedback from mentee and made her follow instructions.

After the intervention (T2) mentee (S10) indicated that there was very little communication or feedback on things that were happening in the classroom. Most of the conversations centered on personal things that did not involve the children in the classroom. Mentee valued her mentor and felt she would be responsive and provide support if given the situation. Mentee provided very little facts on how this looked in the classroom.

At the end of the practice period (T3) mentee (S37) received many suggestions from her mentor on how to implement activities in the classroom and guided her on the types of activities that would be age appropriate for the children. Mentee discussed with her mentor how to problem solve with children and mentor also modeled how to do it in practice. Mentee felt that she was part of the team although limited in scope by the things she could actually do in the classroom.

Finding: Mentor seemed very set on her ways to do things in the classroom, hindering her ability to receive feedback from her mentees, and limiting communication that fosters learning.

4.4.2 Instructional Support

Mentor's Perspective

M3 mentioned (T1) the importance of frequent conversation with her mentees as essential to getting to know her. M3 encouraged mentees to try all the activities and "corrected" her as she tried different things. Responsibilities in the classrooms were shared among all staff members but there seemed to be little decision making on the part of the mentee.

After the intervention (T2) M3 tended to give feedback by "pointing out mistakes". M3 highlighted language barriers indicating it was easier to provide feedback to mentees with higher functioning levels of English. Although M3 tried to use reflective questions, her questions centered on "how do you feel about this activity" rather than on eliciting a deeper understanding of the purpose and outcome of the activity. Examples include "what was the purpose of the activity?", "how do you know children are learning?", and "what could you have done differently?". In terms of feedback, M3 mentioned often giving group feedback, and only at times individualized feedback. Mentor's focus remained on making mentee feel comfortable in the classroom. M3 was not able to specify what types of purposeful activities were assigned to the mentee, although she allowed mentees to demonstrate their activities "correcting" them when inappropriate.

Finding: Although M3 mentioned some of the elements of the training she did not seem to be able to put them into practice. In particular, M3 did not seem to use reflective conversations to deepen mentee's understanding.

M3 emphasized the need to provide immediate feedback (T3). At this time, M3 talked about the goals and how she worked with mentee in observing a child so that mentee could provide activities that met her needs. Most of the times mentee approached mentor with ideas on different activities but conversations continued to be around types of activities that could be implemented in the classroom rather than on how mentee could grow and facilitate learning.

Finding: After the training and period of practice, M3 was able to describe some of the important elements learned; however her ability to help a mentee grow was still very limited (per the observation protocol).

Mentee's Perspective

Mentee S 10 felt that M3 met on a regular basis (T1) with her to provide feedback. However, mentor's feedback was related to observations of things mentee did in the classroom, not to expand mentee's knowledge and improve instruction in the classroom. Mentor's conversations centered on personal conversations rather than on children. Mentee felt that most of her learning was done on her own by observing other teachers in the room.

Finding: Mentor showed limitations on her ability to have effective communication with her mentee and provide instructional support that supports mentee's growth.

Mentee (S10) qualified the type of feedback she received from her mentor after the intervention (T2) as average because she did not provide constructive input nor did she foster reflective or relevant conversations. Mentee also reported that mentor did not provide feedback that was useful for her. Mentee noticed that mentor used the same activity every day without specific intentional learning.

Mentee (S37) mentioned after the practice period (T3) that M3 provided direct feedback on how to implement the activities instead of using reflective conversations. Mentor assigned menial jobs and very seldom mentee was asked to engage in an activity with the children to facilitate learning. Mentee felt that her knowledge was very limited and was not able to share knowledge with her mentor.

Finding: M3 showed very little intentional learning that could be modeled for the mentee. M3 seemed to have limitations on her own capacity to facilitate learning.

4.4.3 Oral Language and Vocabulary

Mentor's Perspective

M3 initially reported (T1) that when looking for children with deficiencies she focused on the type of conversations children had. M3 modeled to students how she engaged children and expanded conversations by expanding sentences.

After the intervention (T2) M3 voiced the importance of detecting children with deficiencies but was not able to give any examples on how to do this. When probed on how she modeled strategies to her mentee, M3 did not provide any information on how to do it either. Training on oral language and vocabulary seemed to elicit introspection about the limitations encountered when children and adults learn English as a second language. Although the training made reference to dual language learners, M3 did not seem to grasp the main focus of children who are not exposed to rich literacy and language environments since she did not made any reference to these children.

M3 mentioned using a mix of verbal and action combination to support children with language deficiencies after the practice period (T3). M3 encouraged mentees to think and share strategies that they could use in the classroom. M3 strategies in the classroom included expanding language through conversations, reading books, and relating the book story to children's real environment. In terms of academic language and concepts M3 was able to share very little about her strategies.

Finding: M3 started with poor levels of oral language and vocabulary and made no improvement after the training and the practice. One can deduct that when a teacher doesn't have the basic foundations on how to build relationships and provide instruction very little outcome will be observed in specific areas of expertise such as oral language and vocabulary skills.

Finding: M3's own limited English skills hindered her ability to improve her instruction in oral language and vocabulary in children.

Mentee's Perspective

At the beginning of the study mentee (S15) stated that her mentor had made no mention of children showing deficiencies in oral language and vocabulary, and thought it was because currently none of the children in the classroom showed these deficiencies. Mentee had heard about this while taking her theory class in child development. Mentee felt that mentor could improve in this area by modeling how to expand conversations and facilitate learning with children. Mentee reported that she benefited from observing her mentor interact with children but got very little feedback from her on what to do.

Mentee (S10) indicated after the intervention (T2) that her mentor mentioned very little about children with deficiencies. M3 encouraged mentee to work individually with children to get to know them but never emphasized areas of deficiency. M3 emphasized getting to know children to see if there were any deficiencies but had not elaborated on it. Mentee had only observed mentor expand children's conversations during circle time.

After the practice period (T3) mentee (S37) observed mentor speaking a little more slowly with some of the children but in terms of reading comprehension mentee never saw mentor probing children with questions that would expand their understanding of the book. Although mentee had seen mentor engage children in conversations very little was seen in the area of critical thinking and academic language and concepts.

Finding: Although a slight improvement was seen during the observations protocols, mentees voiced mentor's inability to effectively work with children with deficiencies and model strategies learned during the training.

4.5 M4 (Process Data Analysis)

M4 has been working at MC CDC for the last 13 years. Prior to this job M4 was working as an executive assistant at Sun Microsystems. She has a BA in marketing, an MA in Psychology, and worked as Marriage Family Counselor for many years. M4 currently holds a Site Supervisor permit. During the needs assessment, M4 was identified as a strong teacher who could implement different strategies in the classroom to support the different stages of children's development. She periodically attends workshops and seminars to expand and update her knowledge on early childhood education and enjoys working with children and students in the classroom.

4.5.1 Relationship Building

Mentor's Perspective

Before the intervention (T1), M4 indicated that she had never been trained as a mentor. M4 was looking forward to the intervention in order for her to learn the skills that she needs to work with students. Notwithstanding these shortcomings, M4 indicated that when she had a new mentee she tried to understand her culture and her demeanor, in other words, M4 truly tried to observe her mentee. In terms of conversations, most of the time M4 initiated the conversations and rephrased what the mentee was trying to convey to make sure that she understood her questions.

M4 enjoyed working with students and even took personal time to converse and meet with them. In the classroom, this mentor often approached mentees to hear their interactions with children and took notes so that she could discuss them later in their meetings. M4 worked with mentees fostering their questioning, especially on why she, as mentor, was doing what she was doing.

After the intervention (T2), M4 became aware that she needed more practice in building relationships with her mentees. Some of the challenges included differences in ideas and beliefs around the best way to work with children. M4 stated that “collaborative relationships can be difficult because mentees look at mentors as their ‘teachers’”. Mentees either want the mentor to give them the knowledge on how to do things or completely disagree on what the mentor is doing.

M4 welcomed any input from mentees so that the conversations flowed back and forth. M4 acknowledged how much she learned from her mentees because they are younger and bring a wealth of new information. M4 also recognized and emphasized mentees’ strength.

Finding: M4 showed a deep understanding of the barriers encountered while building a relationship with their mentees, including acknowledging differences in ideas and beliefs, which often hinder collaborative relationships and effective communication.

Finding: M4 demonstrated a slight change in approach from a unidirectional to more of a reciprocal conversation after the training. Reciprocal conversations may also be a consequence of a more mature relationship between mentor and mentee.

After the practice period (T3) M4 expanded her daily conversations with mentees and tried ways to overcome challenges such as dealing with mentees whose English is their second language. M4 reached out to other teachers who could help translate and expand her conversations with the mentees.

Finding: M4 worked around her limitations when presented with a new group of mentees and found alternative ways to connect with them and promote conversations. However, effective communication continued to be a strong barrier when mentees had fundamental English language limitations.

M4 invited her mentees to discuss situations that arose in the classroom and welcomed their approaches and problem solving skills. M4 welcomed mentees’ ideas and let them explore through activities of their own. M4 sought for mentees’ feedback by asking them questions. M4 mentioned that she probed mentees with questions and guided them so that they could attain the knowledge themselves. M4 also reinforced ideas discussed in

the past so that learning was scaffolded. Mentor allowed mentees to act as teachers in the classroom and challenged them.

Finding: M4 understood the importance of having mentees building their own knowledge. This is a concept that was reinforced during the training.

Finding: Mentor felt more confident about the support that she provided to her mentees in a timely manner.

Mentee's Perspective

Before the intervention (T1) mentee (S19) believed her mentor was skilled because she provided guidance and immediate support when needed. In particular, mentor was “good at explaining why” and modeling how to work with children in the classroom. Mentor took the time to meet with the mentee and together shared ideas. Mentee mentioned that she felt very welcomed in the classroom; mentors introduced her to the children and made her feel part of the team. Mentor talked to mentee about play base activities and how these are led by children’s interest. Mentee valued mentor’s flexibility and openness to new ideas and found her very approachable.

After the intervention (T2) mentee (S22) indicated that mentor always met with her and really took the time to be with her. Mentor used reflective questions with mentee and supported her through the activity while really focusing on what mentee was doing and giving her undivided attention. Mentee believed that mentor valued her feedback and vice versa. Mentee was even able to question what mentor did in the classroom. Mentee reflected on the things mentor did in the classroom, questioned them, and tried to expand them in her own way. She even noticed that the following week M4 brought up the same topics to the classroom which she valued as very beneficial to her learning.

Mentee described her mentor as someone with whom she could cooperate and talk. Mentee was able to present to her mentor ideas about the daily routine and implement them in the classroom.

Finding: M4 started with an adequate approach in relationship building towards her mentees even before the intervention. Even so, M4 was able to reinforce important elements discussed in the training, such as time to meet with her mentees and reflect on practices in the classroom. This corroborated findings from the observation protocols where M4 maintained steady levels of support to her mentees.

Finding: Careful pairing of the mentor and mentee where they demonstrate interest in working together can have a significant effect on building solid relationships, as demonstrated with M4. It does corroborate findings stated in different studies of the literature review.

After the intervention and practice (T3) mentee (S38) acknowledged complete freedom to work in the classroom. Mentee and mentor shared back and forth conversations. Mentor let mentee take full ownership when working with children and redirected children to the mentee when needed. Mentor pushed mentee to try to do other things in the classroom even if mentor had to guide her on how to do them. Mentee felt like she was treated as any other teacher in the classroom who makes decisions and takes control of situations. Mentee valued that mentor was always available and approached mentee to ask if she had any questions.

Finding: M4 benefited from both training (T2) and practice (T3) by demonstrating her ability to foster reciprocal conversations and let mentees gain full ownership of their practices in the classroom which helped mentees construct their own knowledge.

4.5.2 Instructional Support

Mentor's Perspective

Prior to the intervention (T1) M4 based her instruction on asking her mentees what they wanted to learn and not on how she assessed the level of knowledge that her mentee had. Mentor assigned activities but sometimes mentee did not want to participate. Mentor tried to push mentee as much as she could to try out other activities.

At this time M4's misunderstood the meaning of reciprocal feedback. Mentor thought it was a formal evaluation by mentees of her performance. Most of the time, the instructors from the Department of Child Development kept mentors' evaluations that mentees filled out to themselves and were never shared with them. Mentor felt that this hindered the mentor and mentees' ability to be co-learners.

Finding: Concepts about reciprocal feedback were not clear to M4.

After the training (T2) M4 reported a more structured way of approaching the learning instruction that she provided to her mentee. Mentor stated the different steps taken when working with mentees. Mentor also discussed and selected different projects that could interest her mentee, showed her some of the strategies that she could use, and gave her information about children in the classroom who would most likely participate in the activity. Mentor initiated an activity but slowly allowed mentee to take part in it. Mentor used reflective questions to probe mentee on her learning like allowing mentee to explain why they did what they did in the classroom, and also inquired about their comfort level while doing it. Mentor mentioned giving encouragement to her mentee while demonstrating her activity. Mentor mentioned that she needed more training on how to work with her mentee.

During this interview M4 did not express greater clarity about the concept of reciprocal feedback.

Finding: Some elements of the training were visible such as letting mentees demonstrate in the classroom and supporting them through the process. However, M4's approach to learning continued to show a directive rather than a constructive approach.

After a period of practice (T3) M4 explained the process of helping a mentee master an activity by supporting her through the activity and asking questions back and forth showing the reasoning behind (which constitutes the essence of reciprocal feedback). Mentor did not give her direct knowledge but rather helped mentee figure things out by herself. Mentor was aware that in general mentees' learning process could take time and that they had different levels of understanding.

Finding: M4 showed greater understanding of the elements of the mentor training such as reciprocal feedback and helping mentees' construct their own knowledge. This may be a direct result of allowing M4 to practice and master the skill through time (T3).

Finding: Being aware of a mentee's level of knowledge was a direct result of the training and allowed mentor to reflect on her own practice.

Mentee's Perspective

Initially at time T1, S16 indicated that she received positive feedback from M4 but would have liked her to point out the things that she should have been working on. Mentee mentioned that she tried to reflect on her own since she did not feel she received enough feedback from her mentor. Mentee sought advice from mentor at her meetings and discussed things that were happening in the classroom. Mentor provided feedback in more directive ways by giving her ideas on how things should be done. Mentee realized that mentor had some expectations for mentee (being more interactive) but did not communicate this until mentee approached her mentor.

Mentee felt that she had not been assigned particular tasks but was free to try things on her own. Mentee was considered as a teacher in the classroom who could help with any or all of the activities except for supervision and bathroom routines. However, she mentioned that another mentee felt rather lost and did not know what she was supposed to do. Mentor seemed to provide choices for this second mentee who did not feel to be sharing responsibilities and decisions made in the classroom.

Finding: Mentee indicated that mentor struggled to provide relevant and timely feedback and helped mentee construct her own knowledge. Mentor did not seem to provide sufficient opportunities for mentee to demonstrate her skills in the classroom and learn from these demonstrations, an assessment consistent with mentor's understanding of reciprocal feedback at this time.

After the training (T2) S22 mentee received feedback and suggestions from her mentor on how things could have been done. Mentee indicated that mentor was very clear when demonstrating because she explained things while she was doing them. Even though individualized feedback was limited, and was more geared to the whole group of mentees, S22 was empowered to try and demonstrate any of the activities. Mentor was generally very supportive and stepped in when needed. Mentee participated with mentor in activities but reported lack of reflective conversations with her mentor.

Finding: M4 continued to show some deficiencies in how to work with mentee, in particular in providing individualized feedback and eliciting reflective conversations, but she seemed to better understand the needs of her mentees.

After the practice period (T3) mentee S38 received feedback, both in formal meetings and in the classroom, when situations arose that were challenging for her. Mentee often received individualized feedback from her mentor when she interacted with children or completed an activity.

Mentee indicated that she would have liked to have more relevant and reflective conversations with her mentor. Although mentee generally approached M4 with questions and she was not asked to do chores in the classroom, she still did not feel that she is assigned purposeful activities.

Mentee was also able to demonstrate her abilities in class but found that her mentor could give her more feedback. Both mentor and mentee worked together to find solutions to the challenges encountered during the day.

Finding: With practice (T3) M4 was able to provide more individualized feedback to her mentee. This was probably a skill that needed both training and practice and was mastered as the relationship solidified and mentor and mentee got to know each other better.

4.5.3 Oral Language and Vocabulary

Mentor's Perspective

Initially (T1) M4 worked with her mentees in identifying children with deficiencies. Mentor gave mentee information about children in the classroom showing some deficiencies. Mentor used book reading as a tool to assess the level of language and comprehension that children had in the classroom. Mentor elicited questions about the story including characters, concepts, prediction, and associations. At the beginning mentor used short sentences to work with children with deficiencies and later expanded the sentences with verbs and adjectives to scaffold their learning. Mentor also used concepts and related ideas found within children's environment, and used body movements to illustrate them. Mentor modeled these strategies to mentees and gave them resources so that they could apply them in the classroom.

After the intervention (T2) M4 talked to mentees about children who were bilingual and less talkative, and pointed out that some children have difficulties with certain letters. Mentor provided resources for mentees so that they could get a better understanding of children with deficiencies. Mentor reiterated the use of hand motion and sign language. Mentor facilitated conversations with children by doing a lot of repetition and rephrasing what children were trying to say. Mentor described specific skills learned in the training when reading a book and how to tune in with children.

Finding: M4 seemed much more aware of the need to work with mentees on supporting children with language deficiencies. Mentor demonstrated stronger skills after the intervention as also shown in the observation protocol.

After the period of practice (T3) M4 mentioned that she needed more experience, especially with dual language learners, as supposed as with children with actual language deficiencies. Mentor described how she scaffolded conversation strategies from modeling to slowly let them use the tools that they had learned. Mentor felt very knowledgeable about modeling reading comprehension skills to mentees. She guided mentees to increase the level of difficulty in the types of questions asked to children.

Mentor also described the different levels of knowledge of each of her mentees, which she related to the hours of practice that they have had in the classroom. Mentor believed that mentees had a hard time grasping the skill on how to promote academic concepts in the classroom. Some mentees spent inadequate short periods of time in the classroom for a skill that needs a lot of practice.

Finding: M4 faced difficulties showing how to support children with deficiencies, including the limited time mentees spent in the classroom, but showed steady knowledge across time on how to model strategies.

Finding: M4 seemed to show some confusion between children who showed deficiencies in oral language and vocabulary skills and dual language learners. Although they had similar outcomes, this study focused on children who were less exposed to rich language environments instead of children who were processing multiple language skills.

Mentee's Perspective

Before the intervention (T1) mentee (S16) was asked by her mentor to look for signs of concern in children regarding overall development. Mentee observed mentor

demonstrating how to expand language in children when using open ended questions. Mentee learned other strategies to support reading comprehension skills, to acquire academic language, and to teach concepts to children.

Once the training was completed (T2) mentee (S22) indicated that mentor modeled and showed her how to work with children. In the meetings, mentor even expanded strategies and concepts to increase mentee's learning. Mentor showed mentee the importance of working with children who showed language deficiencies and how to support them and how to scaffold learning while interacting with them. In particular, she modeled how to expand conversations through open ended questions, ways to support reading comprehension skills, and techniques to expand academic language and concepts in children.

By the end of the practice period (T3) mentor asked mentee (S38) to observe children in order to pick up cues on deficiencies. One of the strategies that mentee observed was how her mentor spoke slowly, spelled out letter words, and encouraged children to engage in conversations. Most often mentor used open ended questions with children and books to elicit children's understanding to develop reading comprehension skills.

Finding: Mentee consistently perceived her mentor as knowledgeable in the area of oral language and vocabulary skills as corroborated in the overall findings of the observation protocol.

4.6 M5 (Process Data Analysis)

M5 attended California State University at Northridge where she graduated with a BA degree in Child and Adolescent Development. She currently holds a Program Director permit from the California Commission on Teacher Credentialing. For the past 15 years, M5 has been working at MC CDC as a mentor and lead teacher. Previous to this position, M4 held several director positions at different child development centers in the Bay Area.

4.6.1 Relationship Building

Mentor's Perspective

M5 perceived herself at the beginning of the intervention (T1) as being very directive with her mentees. She generally dominated the conversations when she was with them. M5 indicated that the most challenging part in building relationships with her mentees centered on cultural barriers. Many mentees came from a culture where they did not express their own feelings or emotions and were taught to follow directions as they are given to them. Reflective conversations were hard to elicit in an environment where questioning was not part of the norm. Another barrier was the level of experience that each mentee had. Some mentees had no experience and M5 needed to break down each part of the learning process into very simple levels which sometimes was hard to do for her. M5 has been in the early childhood education field for many years and forgot that some of the things she does in the classroom may seem obvious to her but not to her mentee.

After participating in the intervention (T2) M5 acknowledged that the training encouraged her to talk to her mentees every day and to be more specific about the things that happened in the classroom. M5 often reflected on what she was trying to communicate to her mentees and the way that she was doing it. M5 was also more conscious of not

making assumptions with her mentees so that she could more effectively communicate with them. M5 indicated that reciprocal communication often took a longer period of time when mentees had very little experience. M5 was also aware that the short period of time that mentees were assigned to the classroom (16 weeks) hindered her ability to have a more robust communication with them.

In terms of ability to provide support to her mentee, M5 mentioned that support had both a communication as well as an emotional component. M5 tried to get to know their mentees by asking open ended questions and touching on the personal side.

Finding: M5 showed some improvement after the training in her ability to reflect on her style of approaching mentees. Several elements of the training were present such as communication, level of support given to her mentees and getting to know them. Compared to the observation protocol, no improvements in communication and timely support were sustained after the training but there was a deeper understanding of her role as mentor.

After the practice period (T3) M5 stated that there was a clear change in environment in her classroom from being rather stiff to being more cordial and fun. The fact that M5 was much more communicative helped her make this change. M5 acknowledged that she was much more receptive to new ideas from her mentees. M5 made significant improvements in giving fewer directives, sharing information and decision making with her mentees.

Finding: With training (T2) and practice (T3) M5 achieved slight improvements in her communication skills and timely support. Training forced her to achieve real introspection of her role, and practice helped her implement the changes.

Mentee's Perspective

Before the intervention (T1) mentee (S29) indicated that mentor was not available most of the time. Mentee needed to specifically ask her to set a meeting. Mentor provided some feedback when working with children but for the most part she let mentee try things on her own. Conversations were initiated by both parties but mentor directed most of the learning. Mentor did not elaborate much on how mentee worked with children. For the most part mentor assigned menial tasks to mentee and very limited feedback. Mentee stated that mentor was not very approachable since she was always in a hurry. Mentee (S29) mentioned being disconnected with mentor based on compatible styles because mentee preferred to see much more outdoor play and art activities in the classroom.

After the intervention (T2) mentee (S29) stated that mentor still showed limited availability to meet. Mentee indicated that just recently she felt part of a team with the mentor but attributed this success to mentees' ability to be more open. Mentee felt more comfortable raising questions so that mentor could better understand mentee's perspective. Mentor seemed to welcome mentee's fresh ideas. However mentee mentioned having very few conversations with the mentor.

Finding: After the intervention (T2) M5 was more receptive to the mentee but was not able to make a significant change in building a solid relationship.

After the practice period (T3), mentee (S44) found her mentor very communicative and able to address her needs. Mentor welcomed mentee and was relaxed and able to listen attentively to what mentee had to say. Mentee learned from her mentor and benefitted from the relationship. Mentor trusted her mentee and made the effort to reach out to her.

Finding: With time (T3) some improvement was observed on mentors' disposition to work with her mentee including an effort to better communicate and give support in the classroom.

4.6.2 Instructional Support

Mentor's Perspective

Generally M5 (T1) observed mentees' interactions with children in the classroom. Mentor then briefly met (15 minutes) with each mentee to discuss what she observed, the challenges encountered and recommended other ways of doing things. As soon as a mentee had completed the first half part of the practicum, mentor tried to challenge her by suggesting other activities that had not been explored yet. M5's approach was very directive and focused on trying to have mentee experience a variety of classroom activities. However, mentor made very little reference to the type of feedback provided to mentee.

Finding: Before the intervention (T1) M5 showed little understanding of mentees' process of learning. Rather her emphasis was in providing a variety of experiences without eliciting reflection or giving individualized feedback so that mentee could construct her own understanding of things.

After the intervention (T2) M5 indicated putting more emphasis on reflection and trying to break things down into small steps for mentee so that these experiences became more relevant. M5 also mentioned being more attentive to what mentee had to say. This semester M5 was working on getting mentees away from their comfort zone and having mentees share new ideas. For M5 it was hard to work with mentees with little or no experience because mentor could not elaborate on deeper concepts.

Finding: There was a clear emphasis on the elements touched in the training and a deeper understanding on how to support mentees' learning process. Although mentor felt more confident, no gains were observed in the classroom when working with her mentee as recorded in the observation protocol.

After the practice period (T3) M5 mentioned being able to support mentees so that they could pick up the skills needed and try them out on their own. This semester M5 stated that she had a very talented group of mentees who showed more experience in the field. M5 was also aware of the need to have mentees demonstrate a wide range of abilities in the classroom.

Finding: M5 made a slight improvement in the area of instructional support. Most of the gain centered on allowing mentees ample time for demonstrations in the classroom. However, M5 seemed to work better with mentees who showed some level of experience.

Mentee's Perspective

Before the intervention (T1) mentee (S26) indicated receiving some feedback from her mentor. Most of the feedback was done by praising her work "good job" or talking about things that she should not do in the classroom. Many of the activities assigned to the mentee centered on menial chores. Mentee did not feel that her work in the classroom was very useful. Mentee did not participate in decision making in the classroom; she mostly focused on supporting the daily routine in the classroom.

After the intervention (T2) mentee (S29) did not feel that her mentor provided constructive feedback. There seemed to be some mistrust on how mentee felt about the

comments that she received from her mentor. Mentee mentioned that comments could be interpreted in a negative way. Mentee received more detailed feedback when meeting with the mentor outside the classroom. Mentee would have liked to have a better understanding of her role. Mentor provided feedback only when her mentees asked for it and on topics that she felt comfortable with. Mentor allowed mentee to have many opportunities to demonstrate her abilities and observed how mentee handled the situation.

Finding: There was hardly any reciprocal feedback between M5 and her mentee. M5 did not seem to be able to implement some of the elements of the training and apply them in the classroom. M5 allowed for demonstrations but the lack of feedback limited mentee's capacity to learn.

After the practice (T3) mentee (S44) received constant feedback from her mentor who observed and commented with details of what she was doing. Mentee perceived her mentor as a good listener. Mentee felt that mentor's feedback and the wide variety of activities assigned were both relevant. Mentee was encouraged to openly discuss her thoughts with her too.

Finding: Mentor showed a slight improvement as she practiced the skills learned in the training. This improvement was also seen in the relationship building portion (T3) which may have contributed to her ability to improve instruction.

4.6.3 Oral Language and Vocabulary

Mentor's Perspective

At the beginning of the intervention (T1) M5 mentioned that in order to assess children's language development, she looked at the child's level of phonetics and motor coordination, if he/she was a dual language learner, the language that was spoken at home, and if the child was first, second or third generation immigrant.

Finding: M5's understanding of children with deficiencies centered on dual language learners. Little emphasis was made to children who showed lower knowledge of words or grammatical sentences.

After the training (T2) M5 stated that she did not have the confidence in herself to identify children with deficiencies partly due to lack of experience and training. M5 mentioned that during the training, she learned many things on how to focus on speech, articulation, and the language construction of the sentences. Some of these deficiencies were not seen only in dual language learners. However, M5 felt she was able to model strategies such as expanding conversations, short sentence expansion, parallel talk, and open ended questions. Modeling reading comprehension and academic language and concepts were not this mentor's strongest skills.

Finding: The training did not seem to clarify for M5 all the concepts learned. M5 seemed confused on the differences between dual language learners and children who showed deficiencies for lack of exposure to rich literacy environments.

Even time after the intervention (T3) M5 did not feel capable to effectively identify children with deficiencies and establish those conversations with mentees. M5 seemed to feel much more confident about modeling conversations, reading comprehension, academic language, and concept skills.

Finding: Although M5 remained at low levels (poor) across time for identification of deficiencies, she was able to slightly improve on the modeling skills immediately after the intervention (T2) and even later in time (T3).

Mentee's Perspective

Before the intervention (T1) mentee (S23) confirmed that M5 did not make any emphasis on children who showed deficiencies in language. However, mentee did mentioned children who were less talkative and withdrawn in the classroom and her mentor tried to work on a one on one with them.

After the intervention (T2) M5 talked to mentee (S23) about children in general who showed some deficiencies in different areas including social emotional development. When probed about strategies learned from M5, S23 mentioned conversations through open-ended questions and reading comprehension by connecting story to real life experiences.

Finding: Mentee seemed to gain very limited knowledge from her mentor in oral language and vocabulary skills even after the intervention.

After the practice period (T3) S44 felt that her mentor M5 was very attentive to all areas of development of children and often communicated with her.

Finding: For M5, identification of deficiencies remained at poor levels throughout the entire study while modeling strategies showed a slight improvement.

4.7 Mentor Group Analysis (Based on Impact and Process Data)

The analysis in this section will center on comparing three different stages of the intervention process for each of the modules using the rubric. I will compare the pre intervention stage (T1) or initial status quo with post intervention stage (T2) which focused on ***skill building through classroom instruction and reflection sessions***. (T2) findings will indicate whether mentors gained from the direct instruction they received. This will then be compared to the third stage (T3) and show whether mentors **improved skills through practice with their mentees and study of videotaped best practices**.

The training in relationship building and instructional support was provided by DCD instructors who are responsible for course content for the Associate Degree in Child Development. The third module was provided by a MC CDC instructor from the Department of English as a Second Language (DESL). Both the mentors and I concluded that this training in oral language and vocabulary skills in children was not advanced enough to significantly extend mentors' basic knowledge in the topic.

Appendix 10 provides a summary of the mentors' background for comparison.

4.7.1 Relationship Building

4.7.1.1 Effective Communication

Based on the rubric, the area of effective communication declined over time with only two mentors (M1 and M2) maintaining fair to good levels months later (T3). A third mentor (M4) started (T1) with good levels of effective communication but consistently declined to fair (T2) and poor levels (T3). Mentors who started with poor levels (M3 and M5) were unable to significantly improve over time.

The foundational competencies that showed constant rise in ability were “encouraging input from mentees” and mentors showing an “approachable attitude.”

Towards the end of the intervention mentors showed greater “interest in getting to know their mentees” (T1 to T2). However, this was the only foundational competency that dropped to initial levels when several months later (T3) they started to work with a new group of mentees.

“Frequency of conversations” slightly declined after the intervention (T1 to T2) with a first group of mentees because as mentees improved their skills they needed less guidance from the mentors. Accordingly, conversations significantly increased as mentors worked with a new group of mentees (T3).

Mentors showed dexterity in conversing and interacting with mentees especially at the initial stage of the relationship showing that “frequent conversations” is a necessary tool in this process.

Finding: As mentees solidify their relationship and gain confidence in their skills they seek less guidance from their mentors and initiate fewer conversations. Conversely, mentors have more interest in their mentees over time. This behavior repeats when mentors engage with a new set of mentees.

When analyzing the improvement of all competencies for effective communication, two out of five mentors showed improvement, two stayed the same, and one regressed (see Table Y).

Finding: Effective communication seems to be highly dependent on the maturity of the relationship between mentors and mentees and much less on the impact of intervention and practice. Significant gains in effective communication were only seen over time.

4.7.1.2 Timely Support

Based on the rubric M1, M2, and M4 maintained good levels of “timely support” over time (T1 to T3). A slight gain was observed with M3 and M5 who started with poor levels (T1) and remained with fair levels (T3).

All three foundational competencies for timely support increased overtime (T1 to T3): “level of cooperation,” “level of support,” and “providing advice.”

Data indicates that “level of support” was actually mastered during practice (T2 to T3) and not during or immediately after the classroom instruction. Mentors acquired knowledge (T2) but did not show any improvements until T3.

Finding: The level of support that mentors showed is directly related to how much they practice and not to the maturity of their relationship with their mentees.

“Providing advice” was a competency that equally improved with training and practice showing a steady increase through time (T1 to T2 to T3). Having different mentees did not seem to affect mentors’ improving ability to offer advice.

“Level of cooperation” also increased after the classroom instruction. This seems to indicate that as mentors and mentees get to know each other overtime they increased their level of cooperation and willingness to work together. Moreover, mentors’ level of cooperation kept improving with new mentees.

When analyzing the improvement of all competencies for timely support, four out of five mentors showed improvement and one stayed the same (see Table Y).

Finding: Timely support seems directly and positively influenced by the improvements in all foundational competencies triggered by either the classroom instruction or the practice except for level of support (which is solely dependent on practice).

4.7.1.3 Protocol of Relationship Building (Effective Communication + Timely Support)

Four out of five mentors improved this skill through all phases of the intervention and one mentor (M4) remained with good levels of timely support (see Table Y).

Overall mentors were more successful at building foundational skills related to “timely support” than to “effective communication”. “Relationship building” is highly influenced by mentor’s ability to provide timely support to their mentees. Although some mentors struggled with cultural and language barriers these were somewhat overcome by how much they collaborated and provided advice.

Finding: Changes recorded in the area of “relationship building” are mainly driven by gains in the area of “timely support”.

4.7.1.4 Mentor and Mentee’s Perception of Relationship Building

Three (M1, M2 and M4) out of five (M1 and M5) mentors felt confident about their levels of effective communication over time (from T1 to T3).

Interestingly, M4 started with good levels of communication but showed a decline, months after the intervention (T3). M4 reported language challenges in the final interview which coincides with her low observation rating (Poor) during the protocol assessment (T3). However, M4 received higher scores from her mentee in T3 in the area of “relationship building”.

Finding: Cultural and language barriers continue to be one of the main impediments in building strong relationships between mentor and mentee.

After the training (T2) mentors became much more aware of some of the skills needed, in particular how to let mentees communicate more often without dominating the conversation and doing active listening. Mentors encouraged more opinions from their mentees and were more interested in ways to get to know them better (during T3, when facing a new cohort of mentees).

Regarding the interaction of “interest in mentees” and “frequency of conversations” M1 stated that with the younger mentees, who have less experience, more time is needed to initiate conversations.

Finding: Trying to get to know their mentees was the most difficult skill in the effective communication domain.

Mentors showed support to mentees by addressing all their questions and checking with them to see how they are doing. Mentors also expressed support when noticing cases of mentees struggling in the classroom and approaching them to see if they needed help (the very definition of “timely support”).

Mentees were looking for quality time to meet with their mentors, get immediate answers to their questions and receive more elaborate feedback (i.e. not a simple “good job”). Mentees in general appreciated the fact that mentors allowed them to do most of the things and together collaborate with activities in the classroom.

Level of cooperation and mentors ability to address mentees needs on a timely manner had a positive effect on providing effective support to mentees.

4.7.2 Instructional Support

4.7.2.1 Reciprocal Feedback

Based on the rubric, reciprocal feedback was an area difficult to master. M1, M2, and M4 maintained good levels after the intervention (T2) but did not sustain the gains over time ending with fair and poor levels (T3). In contrast, M3 and M5 started with poor and fair levels (T1) and remained at poor levels (T2 and T3).

Providing “constructive feedback”, “individualized feedback”, and “reflective conversations” showed a steady decline from the end of the intervention to the end of the training (from T1 to T2) and later recovered at the end of the intervention (from T2 to T3). Acting as “co-learners” between mentors and mentees steadily declined across time (from T1 to T2 to T3).

Data seems to indicate that mentors had to unlearn some of the skills that they were already using in the classroom when given the training (T2). However, after the classroom instruction mentors were able to correctly learn the skills and got better as they practiced (T3).

Acting as co-learners entails a flow of knowledge between mentors and mentees but this may also be related to the level of experience that mentees have and can share. Having new mentees after the classroom instruction impacted co-learning since there was not enough time to build the relationship (as seen in the previous section) and mentees were inexperienced enough to not offer useful learning opportunities to mentors.

Reciprocal feedback showed no improvement, with two mentors remaining at the same level and three having declines.

Finding: Reciprocal feedback is strongly related to the co-learning experience and requires both unlearning and learning with the same individuals. For this reason, mastering this area requires long periods of interaction.

4.7.2.2 Fostering Practice

Based on the rubric, M1 and M2 moved from fair levels (T1) to good levels (T3) of fostering practice. Interestingly, M4 started and maintained good levels after the intervention (T1 and T2) but dropped to poor levels when she started working with a new group of mentees (T3). In contrast M3 and M5 started with poor and fair levels (T1) and did not show any improvements (T3).

Mentors assigned slightly more “purposeful activities” and heavily “encouraged mentees to demonstrate” more often in the classroom (from T1 to T3).

Finding: Purposeful activities have a learning component but this implies some thinking and preparation on the mentors. It is easier to request demonstration of any kind than to request demonstration of select activities that have a pedagogical purpose. Moreover, repeating demonstrations of similar activities has a decreasing learning impact.

Fostering practice had two mentors showing improvement, two staying the same, and one declining.

4.7.2.3 Protocol of Instructional Support (Reciprocal Feedback + Fostering Practice)

The limitations observed in acting as co-learners showed mentors' inability to foster an exchange of ideas with their mentees. This unidirectional transfer of information from mentors to mentees hindered their ability to improve their own instruction in the classroom.

Overall, Instructional Support was a skill hard to improve. This skill is directly associated with the ability to build strong relationships.

Mentors who showed ability to build relationships did better in instructional support (M1 and M2) than those mentors who demonstrated lower levels (M3, M4 and M5).

Finding: Changes recorded in the area of instructional support are highly dependent on changes in the area of relationship building.

4.7.2.4 Mentor and Mentee's Perception of Instructional Support

The mentees' main criticism was that mentors provide feedback on the things that are working well but they seldom get input on what is not working. In general, mentors seem to take a hands-off approach with mentees letting them figure out what needs to be done in the classroom. This approach may work with some mentees but others feel lost.

At the initial stage of the mentor and mentee pairing, mentors have a hard time understanding what the mentee needs. This is a product of building a relationship over time with the mentee and learning what each mentee needs for support.

Although M4 showed a decline in skill in the area of timely support, she was rated as highly knowledgeable after the intervention (T2 and T3) by the mentees.

Overall the interviews revealed that both mentors and mentees considered that there was an improvement in instructional support while the observation protocol does not lead to the same conclusion.

4.7.3 Oral Language and Vocabulary Skills in Children

4.7.3.1 Identification of Deficiencies

Based on the rubric, mentors started with fair and poor levels in regards to "identifying children with deficiencies". M1 and M4 moved from fair to good levels after the intervention (T2) but declined to poor levels like the rest of the mentors. M2 maintained fair levels in T1 and T2 but moved to poor levels in T3. M3 and M5 never left their poor levels.

Regarding the specific foundational competencies beneath "identification of deficiencies," after the classroom instruction (T2) mentors seemed to give more importance to early identification and modeling identification but consistently stopped showing any level of competence later on (T3). Notes in the protocols reveal that mentors, while addressing a case of oral language deficiency, if ever, did not include the mentee in the exercise, with the direct implication of not highlighting the importance of or the examples for these competencies.

In summary, three mentors kept their level of competency for identification of deficiencies while two others regressed.

4.7.3.2 Modeling Skills

Based on the rubric, M4 was the only mentor that showed a steady level (good) across time (T1, T2 and T3). Interestingly, M3 and M5 moved back and forth from fair to poor (T1 and T2) ending in fair levels (T3). M1 and M2 improved to good levels in T2 but ended with poor levels in T3.

Modeling “conversations” was the skill that showed most improvement after the intervention (T1 to T3), even with new mentees. Instead, modeling “reading comprehension” skills showed gains after the classroom instruction (T2) but decreased when paired with a new group of mentees (T3). Modeling “academic language” remained largely flat with a slight drop at the end (T3).

In general, modeling conversations is mentors’ strongest skill in the classroom. Conversations are used to foster learning in all areas of language and cognitive development. However, reading comprehension and academic language are areas that are often forgotten and are crucial for future early literacy skills; especially when working with children who come from more disadvantaged families with less exposure to vocabulary words at home.

In summary, the intervention had no discernible effect on modeling skills for oral language and vocabulary. One mentor improved, one degraded, and three saw no change.

4.7.3.3 Protocol of Oral Language and Vocabulary Skills (Importance of Early Identification + Modeling Skills)

Three (M1, M2 and M4) out of five mentors reported a decline in skill, another improved (M5) and the last one (M3) remained the same. Interestingly, four out of five mentors improved their ability to identify children with deficiencies right after the classroom instruction (T1 to T2) but were not able to maintain the skill in T3.

Finding: Overall, no significant gains were recorded in the area of oral language and vocabulary skills.

Besides the standard explanation that recommends sustained training and practice overtime I can hypothesize that the quality of the instruction had a negative effect on the mentors’ understanding of this area, even in spite of studying very illustrative best practices on videotapes.

Good levels of motivation and self-direction are better correlated with slight improvements in this area than higher levels of initial education (prior to the intervention).

4.7.3.4 Mentor and Mentee’s Perception of Oral Language and Vocabulary Skills

Both mentors and mentees showed confusion between symptoms of children with special needs and symptoms of children with oral language and vocabulary skill deficiencies. Furthermore, some mentors did not feel equipped to teach the corresponding skills.

4.8 Video Tapes (Process Data Analysis)

At the end of each of the three training modules all mentors watched two pre-staged videos demonstrating both effective and not-so effective mentoring skills. After each video

illustration they participated in group discussions to provide their input on the skills observed and suggest ways for them to demonstrate these skills in the classroom.

4.8.1 Relationship Building: “Effective Skills” and “Not So Effective” Skills

Mentors noticed in the videos that there was a relaxed atmosphere. They stated that there was good communication between the two participants (MT = mentor teacher and SM = student mentee) since they greeted themselves in the morning and debriefed about the children and classroom at the end of the day. Mentors noticed that MT remembered personal things about SM, in particular what she had done over the weekend, and engaged her in conversations that were exciting. MT encouraged participation from SM by asking her to provide her opinion on the types of activities that they should plan with the children. Mentors also stated that both MT and SM seemed engaged in the daily activities of the classroom, with SM often quiet and reflective (which they thought was appropriate).

When asked how these skills could be demonstrated in the classroom, mentors mentioned the need to bring in mentees to the classroom by showing them the room, introducing them to the rest of the staff, and meeting each of the children. Mentors concluded that they should meet with mentees at times when there is neither distraction nor interruption to set expectations. Furthermore, mentors mentioned how watching the students in the classroom can be very challenging at times. More specifically, mentors stated that taking turns to talk, giving resources to mentees, providing mentees with children’s background, and building relationships, were all essential elements.

Mentors reflected on things that should never be observed in the classroom, including mentors not giving any positive feedback (or conversely giving negative feedback or none at all); inadequate body language or tone of voice in mentors; mentors not giving mentees support when they are struggling; mentors not providing explanations or reasons why things are done in certain ways; no interest in sharing ideas or control of the classroom; mentees worried about their mentor’s perception; and focusing on what went wrong with mentees.

Finding: Mentors realized that including mentees in the running and management of the classroom, and the associated behaviors favoring it or not, determined their level of success teaching mentees.

Finding: Mentors linked relationship building with instructional support when making associations of the right and wrong ways of doing things.

4.8.2 Instructional Support: “Effective Skills” and “Not So Effective” Skills

When discussing the pre-staged video on instructional support, mentors mentioned how MT used many open ended questions with SM to expand on the learning. MT validated the input received by SM and discussed the information without determining a right or wrong answer. MT served as a guide to SM leading her mentee with flexibility on the things that SM was interested in learning. Mentors also noticed that MT was very engaging and was able to demonstrate best practices in the classroom by modeling the importance of showing children that the process matters more than the product.

Points that were highlighted included MT engaging SM in conversations and providing positive feedback and reinforcement; MT’s open disposition and reflective capacity; supporting SM by giving her additional tools to use in the classroom; encouraging

SM to take risks; and allowing for disequilibrium (SM questioning what she had previously learned). Furthermore, mentors suggested speaking to mentees slowly.

Mentors also indicated that the most relevant challenge was being watched at all times by instructors, students, director, etc., while trying to bring in their own individuality.

Finding: Mentors captured the importance of modeling and providing relevant and timely feedback.

Finding: One of the most interesting remarks was allowing for disequilibrium. Mentors seemed to grasp the idea that mentees need to construct their own learning by questioning what they had learned.

Finding: In general, very little improvement in instructional support was observed through the observation protocols indicating that mentors did not know how to apply this body of knowledge in practice.

4.8.3 Oral Language and Vocabulary: “Effective Skills” and “Not So Effective” Skills

Mentors noticed how some of the strategies observed included repeating some of the words mentioned by the children and using back and forth conversations. Mentors mentioned that MT modeled strategies and connected the learning to a particular action in the classroom while at the same time expanding vocabulary. MT introduced new words with different levels of difficulty. MT was very encouraging and acknowledged creativity, tended to reflect on the activity observed and provided very specific comments. MT did not seem to dominate or take charge, had a good tone of voice and eye contact with SM. Mentors acknowledged that some of the things that needed to be omitted included not meeting in busy areas but in designated areas for debriefing.

Finding: Although mentors noticed some of the strategies to be used in oral language and vocabulary, some comments revolved around instruction and relationship building.

Finding: Compared to the other modules, oral language and vocabulary video tapes elicited very little in terms of mentor observations, probably an indication of their general deficiency in understanding this topic before and after the corresponding training.

4.9 Reflective Worksheets (Process Data Analysis)

Mentors participated in reflective workshops at the end of each of the modules at two different points: first, at the end for each training module (T2) and second, at the end of the practice period (T3) when they were asked to:

(T2) Begin to analyze and appreciate the skills: identify the skills that needed improvement; why they needed improvement; which skills were harder to identify; and things mentors could do to improve the skills.

(T3) Explain how to apply the skills in practice: identify relevant skills; indicate why the skills were relevant; and how to incorporate these skills in practice.

4.9.1 Relationship Building

4.9.1.1 Begin to analyze and appreciate the skills

M1, M3, and M4 mentioned that they needed to improve in the areas of active listening, effective dialogue, and how to initiate conversations, particularly when the

mentor is just starting to get to know the mentee. M2 stated that providing feedback was more important to her, especially on the things that mentees needed to improve on. M5 felt she needed guidance on how to build relationships when language and culture interfere.

Mentors indicated that the skills listed above were indispensable to master another set of skills, namely helping mentees think for themselves, learning to provide constructive feedback, understanding where mentees' are coming from, and handling conflict when it arises. Harder to develop skills after mastering the five initially listed included using questions to expand on mentees' learning and knowing when to respond when asked for feedback.

Mentors also reported that in order to make improvements they had to read more about mentoring, coaching, and practice the skill, understand what mentees are looking for, and continue working on improving communication. When probed on how to incorporate these skills in their daily practice mentors mentioned focusing on building trust and being good listeners, identifying skills that need improvement, and providing constructive feedback. Some added that restating key points and asking questions to affirm understanding, while giving mentees time to regroup their thoughts, were also critical.

Finding: The training made mentors rethink how to approach mentees and how to support them. Challenges centered on building communication and providing relevant and timely feedback.

4.9.1.2 Explain how to apply the skills in practice

M1, M2, and M4 reported that the skills above could be applied by finding out their interest, getting to know their style, being in tune, smiling, spending time talking, encouraging an exchange of ideas, and providing input and questions. In other words, by exercising active listening. In fact, M1, M2, and M4 stressed the relevance of being a good listener as a precondition to becoming a good communicator. M3 and M5 focused instead on making mentees feel welcome in the classroom.

Finding: M1, M2, and M4 were able to verbalize how they would implement the skills in the classroom. These three mentors were the ones that recorded improvements over time while M3 and M5 showed very little progress.

4.9.2 Instructional Support

4.9.2.1 Begin to analyze and appreciate the skills

Skills that needed improvement included how to scaffold learning with adults (M1), achieving a deep understanding of what mentees think or need to know (M2), using different teaching styles (M3), getting feedback from mentees on mentor's style (M4), and giving constructive feedback (M5). Reasons to improve these skills included: requiring very different skills in adult learning (M1), not being accustomed to providing constructive feedback (M2), existence of different styles of mentee learning (M3), importance of receiving mentee feedback (M4), and need of mentor-mentee alignment (of thoughts, values, and beliefs) (M5).

Skills hard to develop included identifying different learning styles (M2 and M4), finding the appropriate way to communicate without offending (M1 and M3), and maintaining a positive climate (M5).

Finding: The training on instructional support helped mentors understand the need to learn how to work with mentees who have different learning styles and recognize the importance of providing constructive feedback.

4.9.2.2 Explain how to apply the skills in practice

Mentors mentioned that to apply these skills in practice they should maintain feedback loops with mentees sharing discussions and reflections (M1), reflect on what is important to mentees (M2), provide relevant feedback (M3), change mentor's approach based on mentees feedback (M4), and provide actionable feedback (M5). These skills were considered relevant because the ability to reflect on things that worked and those that did not work could provide insightful approaches on how mentor supports mentees.

Finding: In the area of instructional support mentors acknowledged that by getting to know their mentees they would be more inclined to identify and understand the best ways to support their learning in the classroom.

4.9.3 Oral Language and Vocabulary

4.9.3.1 Begin to analyze and appreciate the skills

Mentors never stated during the course of the intervention or while in the practice period or during this final exercise whether they thought they had initial limitations in their ability to teach oral language skills. All mentors reported a high level of competency during their self-assessment during pre-intervention (T1). On the other hand, the third party observation protocols stated a fair or fail level at this point in time.

Mentors did state that they needed to develop some skills in oral language after the intervention. These included giving mentees specific feedback on oral language deficiency identification, taking turns to ask questions, and showing mentees how to repeat and extend on what the children are saying.

Other challenges included expanding language when answering a child's short sentence using repetition, expansion, and descriptive language at the same time (M1); tuning in and making sure that mentor was engaged in active listening (M2 and M3); and the number of words that children should know (M4).

When asked how to incorporate these skills in practice mentors mentioned modeling how to follow children's interest, listening and responding to connect and expand on child's family words and concepts; and honoring what children are saying.

Finding: Although some mentors named a few skills in oral language and vocabulary, they seemed to need more training and practice in this area. Mentors attempted to incorporate some of the elements in relationship building and instructional support with this area of expertise (oral language and vocabulary).

4.9.3.2 Explain how to apply the skills in practice

Most of the mentors stated that by using more descriptive language and various forms of language (e.g. sign, body) children develop new skills. M4 was the only mentor able to elaborate more deeply in this area: oral language skills are developed with frequent conversation, open-ended questions, repetition and extension of words and phrases, self and parallel talk, and use of different kinds of words. M4 stated that, most importantly, mentors needed practice on how to use language in the classroom.

Finding: Mentors showed some concerns and limitations when working with children on oral language and vocabulary skills. A couple of mentors even declared that they needed more training and practice.

4.10 Mentors' Work Product: "MC CDC Mentoring Guidelines"

Mentors, DCD instructors, and this researcher met after the practice period to prepare guidelines for mentors when training their ECE students. The exercise's goal was to collaborate in creating a first draft that will serve as a reference for mentors, current and future, with the understanding that the document will be constantly revised to incorporate additional insights from active observation of their mentoring practice through time. For each of the key elements initially identified in the three modules, mentors indicated how the skill would look in practice with the mentor acting as the active participant.

The guideline compiled mentors' own interpretation of how to work with ECE students based on their learning experience and reflection through the intervention process. Mentors gave multiple examples of the skills that need to be observed while building relationships with their mentees. Mentors even came up with staged questions such as "what are you interested in", "how do you do this", "what do you think about...." that they could use with their mentees to further their understanding of each of the students. Mentors seemed to better appreciate the importance of building relationships by getting to know their mentees. The importance of this skill was much more prevalent after the intervention compared to prior interviews and the needs assessment surveys. The two areas that mentors stressed in the mentoring guidelines included the ability to build a relationship and how to improve communication with mentees.

In the area of instructional support the skills outlined were broad and general with fewer concrete examples of how this would look like in the classroom. However, mentors did mention potential challenges such as personal biases and values that could influence the type of feedback provided.

In terms of oral language and vocabulary, although mentors indicated some ways to help mentees identify children with deficiencies these were still vague and general. Mentors expanded this area by adding that they would incorporate findings from commonly used assessments (e.g. DRDP, ASQ) and daily observations to instruct mentees. Mentors also mentioned skills learned during the training and further expanded on how this would look in the classroom. Mentors seemed to focus on how to model and expand conversations with children, an area where most teachers felt the strongest and most comfortable with. Mentors seemed to grasp basic concepts learned and showed some first positive results only after months of practice.

5.0 Discussion, Conclusions, and Recommendations

This study attempted to apply the methodology of design development to address the quality of mentoring. The literature and this study both identify the mentoring areas of relationship building and instructional support as foundational. Any application of mentoring to a specific discipline,—as it was done in this case to ECE training for oral language and vocabulary skills in children—, must rely on first solidifying relationship building and instructional support.

The methodology used an intervention made of four inputs targeting the quality of student mentoring: identification of key knowledge and skills, acquisition of such key knowledge and skills, reflecting and adjusting skill building, and providing a supportive organizational environment. Improved mentoring of students then improves student's skills in oral language and vocabulary for children, who can thus acquire foundational literacy skills.

5.1 A Design Development Discussion

Very often Early Childhood Education (ECE) teachers acting as mentors do not receive proper training to be able to train pre-service teachers. The literature indicates that some of the most important skills in mentoring include building relationships that foster communication and learning, providing instructional support by modeling techniques, demonstrating strategies in the classroom that allow students to put theory into practice, and giving constructive feedback.

The problem of practice that this study intended to address was how to improve mentoring skills of Mission College Child Development Center (MC CDC) senior teachers to prepare pre-service teachers to effectively work with children who show deficiencies in oral language and vocabulary skills. I designed a theory of action to tackle the problematic behaviors by consulting a broad literature knowledge base that identified the required skills to address the problems and by bringing my practical experience to craft an intervention.

5.1.1 Meeting the Design Challenge

The end goal of this study was to improve children's oral language and vocabulary skills. However, the way to achieve this was through an indirect effort by improving the skills of pre-service teachers in this area. Pre-service teachers in turn can acquire these skills through good mentoring instruction from their senior teachers. Figure 1 Causal Model of Intervention describes these causal relationships. It shows that effective learning cycles include (i) the identification of the required knowledge and skills; (ii) ways to acquire this knowledge and skills; (iii) reflecting and analyzing skill building and making adjustments as needed; and (iv) providing an organizational environment to support the mentoring process. It is at the initial stage of Figure 1 that we had to execute the intervention.

Although the literature provides a large body of knowledge about some of the skills that are needed, it falls short of describing how mentors acquire these skills over time and, most importantly, fails to explain how they transfer this knowledge effectively to their mentees so that changes last. The challenges identified in this study included relationships

that obstructed communication and learning, poor instructional support on the part of the mentor, and a lack of focus and techniques on oral language and vocabulary skills. In order to improve mentoring competencies, the previously identified problematic behaviors needed to be tackled by changing attitudes and building skills and knowledge that produce the desired outcomes.

Change drivers constituted the areas of focus when designing the intervention. The key drivers of change included the ability to: (i) build relationships that fostered reciprocal communication and learning between mentors and mentees; (ii) improve mentors capacity to provide instructional support that is effective; and (iii) increase mentors ability to focus and address issues in oral language and vocabulary skills in children.

Based on the above, I structured the intervention around the change drivers, hypothesizing that there was a linked sequence of learning events that produces a cumulative effect. In other words, improvements in relationship building allow for progress in instructional support which in turn enables individuals to acquire the minimum level of proficiency to develop advanced skills, in this case in oral language.

The literature indicates that self-reporting of personal progress tends to be overly positive in many cases (Patton, 1990 and Stake, 2006). I instead decided to bring two additional points of view to all the assessments: one from an independent and trained observer, and one from the counterpart in the trained person, the mentor's mentee.

Reliability is the degree to which an assessment tool produces stable and consistent results. For this reason I developed protocols for the implementation of the intervention, observations, interviews, and data capture and analysis to be repeatedly used at multiple points over an extended period of time. The data collection points in time were also carefully pre-determined and pre-specified and were narrow in nature.

I considered a variety of pedagogical tools to cover all learning styles of the individuals trained as mentors. Some people respond better through visual examples (as in videotapes), others need in-classroom instruction, others prefer conversations (as in group reflection sessions), and so on. Per the literature a reflective approach to learning (Pavia et al., 2015) and a active learning experience can effect real changes in practice (Brindley et al., 2002).

5.1.2 Assessment of Outcomes of Theory of Action

5.1.2.1 Context

As a designer I selected a series of activities to support a mentor's process of learning, including lectures that focused on specific knowledge areas and skills, followed by group discussions and reflective workshops where mentors could start to identify and analyze the skills needed in the classroom. Mentors' theoretical knowledge was enhanced through practical applications in the classroom: Each skill learned in the training was repeatedly practiced and applied in the classroom. Mentors and co-lead teachers also worked together to demonstrate the skills they learned which they recorded by using a video camera. They further shared their experiences in the periodic group discussions. Finally, a set of six pre-staged video tapes, created with some volunteer instructors, helped teachers to identify more effective and less effective skills in the modules of the three different change drivers.

5.1.2.2 Intervention Activities

The combination of activities in this intervention showed mixed results. Positive outcomes are listed with (+); negative outcomes with (-).

(+) Relationship building was the skill that had the best outcome. Mentors not only realized the importance of building solid relationships with their mentees through improved communication but were able to improve their attitude towards their mentees. The skills were relatively simple to identify and grasp.

(-) The biggest challenge in this area was the language barriers since some mentees had a limited understanding of English. Another barrier was the length of time that mentors and mentees were actually working together (seven hours a week for 16 weeks) which sometimes limited their capacity to continue building the relationship. However, this could not be changed since this is the standard duration of the lab's academic semester.

(+) The second part of the intervention centered on instructional support. The skill intended to serve as a vehicle to share knowledge between mentors and mentees. Mentors understood the need to model skills and give mentees ample time to practice. They also demonstrated their ability to provide relevant and timely support.

(-) However, mentors were unable to scaffold and exchange ideas back and forth. They also struggled understanding that mentees needed to build their own knowledge rather than simply being told what to do and how to do it. Results showed that mastering reciprocal feedback was hard to grasp.

(-) The third part of the intervention focused on oral language in children. The training in this area was rated as weak by the mentors since it demonstrated basic skills and strategies that they already knew and did not present new and more sophisticated competencies, especially to detect children with deficiencies (often confused with dual language learners). Although the instructor made changes in the training along the way, the changes were small and did not reach the level of advanced knowledge that mentors needed.

5.1.2.3 Domino Effect across Activities

(+) Findings did show a domino effect between every two adjacent training modules. The study intended to first teach mentors how to build effective relationships so that they could better communicate with their mentees. Without strong relationship building it became very difficult to master instructional support. In turn, mentors who were initially weak in instructional support remained weak in this area too and in oral language. The latter is a highly specialized skill that requires mentors to master the two previous areas (relationship building and instructional support) and thus only one mentor showed improvements in it.

5.1.2.4 Bias Mitigation

(+) The study was designed to ensure mitigation of assessment bias by providing multiple data points (observation protocols, mentors interviews and mentees interviews at three different points in time). Furthermore, having an external assessor who conducted all assessments increased the reliability of the observations. This can be seen in the results of Chapter 4, where often the assessments of the mentee (in the interviews) and the third party observer (in the observation protocols) differed from the ones by the mentor (in the interviews).

5.1.2.5 Reliability

(+) As a researcher I continuously ensured the use of the standard protocols by the same individuals along the entire intervention, which lasted several months, which eliminated the possibility of diverging evaluation criteria.

5.1.2.6 Pedagogical Tools

(+) In general the group discussions and reflective worksheets were the tools that elicited the deepest knowledge of ideas among mentors. Mentors were able to share, discuss, and analyze the skills used. Even though the use of videotapes to practice in the classroom was limited, since many mentors did not feel comfortable exposing their demonstrations to the group, it did have a significant impact in clarifying concepts. The pre-staged videotapes seemed useful in the area of relationship building but less so in instructional support and oral language.

(+) The design was successful in making mentors active participants in the curriculum design for mentees. Mentors showed more interest in their mentees, built stronger relationships, and were more interested in collaborating with instructors.

5.1.3 Deriving Design Principles

In retrospect there are a number of design principles that either I derived from the intervention or I took from the literature that were validated.

5.1.3.1 Regarding the Design's Foundation

This study was designed with the pre-requisite of building solid relationships between mentors and mentees. Although most mentors showed improvements in this skill, some encountered barriers that affected the expected outcome. In this area a mentee's poor command of the English language hindered her mentor's ability to communicate and transfer knowledge. Furthermore, a person's inability to clearly articulate ideas added to this barrier. *Effective communication* is much more than simple language abilities: mentors need to (i) understand the needs of their mentees to determine what ideas and directives to exchange and (ii) both mentor and mentee should be able to clearly express them.

In the area of instructional support the skill of reciprocal feedback demonstrated to be the most challenging. Most mentors did not improve or make gains after the intervention. Exchanging ideas back and forth while probing and scaffolding is complex in nature, which probably needed a lot more practice for a longer period of time (over eight weeks). This part of the module would benefit from a more *intense presence of a coach* where mentors can be supported in a sustained way. The hierarchical structure that currently exists at MC CDC where mentors are considered supervisors, and not partners, of mentees had a negative effect on the outcomes of this intervention. A more *collegial environment* would have offered a more appropriate environment for co-learning.

The hardest skill to master by far within the context of *oral language* was the *identification of deficiencies*, often confused with typical behaviors of dual language learners. Training instructors should have a clear understanding of it, emphasize the differences between the two conditions, and demonstrate effective diagnosis techniques to work with children in order to obtain more positive results.

Moreover, improvements in the area of oral language heavily depended on progress made in instructional support, which in turn depended on gains in relationship building. Mentors need to have a solid understanding of what effective instructional support looks like in the classroom to be ready to move to a highly specialized skill such as oral language. Making sure that mentors master the first two areas, relationship building and instructional support, will have a direct and positive effect on the oral language outcomes. Therefore, this *domino effect*, coupled with the fact that oral language mastery requires advanced skills, implies the need for a good number of opportunities to practice it before starting to produce good results. All this assumes that mentors have the willingness to learn and sufficient initial technical training.

5.1.3.2 Regarding Change Drivers

There seems to be a number of key drivers of change that affected all three areas of mentoring. They include (i) quality of the classroom instruction, (ii) length of practice, (iii) maturity of the mentor-mentee relationship, (iv) mentee's level of experience and expertise, and (v) mentee's level of mastery of the language of instruction.

The quality of the classroom instruction during the intervention had a direct impact on how mentor's mapped their knowledge and performed the skills in the classroom. For example, mentors considered the training in oral language and vocabulary very basic and were aware of more sophisticated strategies that could be used in the classroom. This training also created some confusion because the instructor focused much more on dual language learners. Outcomes for this module showed overall minimum gains. However, even if the quality of the classroom instruction would have been excellent, if mentors had poor foundational knowledge in a technical area, the instruction might have not been sufficient or adequate. Finally, it is hard to conclude whether mentors were reluctant to try to identify children with deficiencies in oral language and vocabulary. Another consideration was the length of time to practice a skill. The harder the skill is, the more the mentor needs to practice the skill in order to master it. All mentors showed important gains in relationship building, most mentors improved in instructional support, and just one mentor had gains in oral language after months of practice.

The level of maturity of the mentor-mentee relationship had a direct effect on mentees' ability to be receptive to mentors' instruction. This study indicates that only solid relationships between a mentor and a mentee lead to effective learning by the mentor and the mentee. Getting to know a mentee is a process that needs time and ability to scaffold. The fact that MC CDC students receive a practice period of 16 weeks (but only 7 hours per week) is often too short to build solid relationships.

Mentors need to understand how to work with students who have different levels of knowledge in ECE to properly adapt their communication, facilitate demonstrations, and offer the right feedback. Moreover, the cultural backgrounds of the mentor and mentee can often impact the perception of such level of knowledge, such as being shy and submissive without asking for clarification or not questioning the reasons for an instruction. Active participation where a mentee challenges her mentor's knowledge directly affects the way that mentee construct her own understanding of things.

Mentors who demonstrated lower skill levels at the beginning of the intervention remained with poor skills during the post intervention period. When comparing mentors' results after the intervention and practice period and their corresponding backgrounds at

the start of this study, it is apparent that higher levels of education, although facilitating new learning, do not necessarily support achieving improvements in mentoring skills. More likely, the top learning traits of the mentor, such as being self-directed, motivated, and practical, better align with the improvement of her mentoring skills.

Allowing mentors to meet more often with their mentees without being interrupted and conducting periodic meetings with the instructors also contributed to a better understanding of their mentor roles and the potential impact on their mentees.

5.1.3.3 Regarding Pedagogical Tools

Both videotaping and reflections proved to be very useful in helping mentors to solidify concepts in theory with activities in practice. Likewise, these two tools fostered their self-awareness and clarified their role as mentors.

It was evident that the level of collaboration between MC CDC mentors and DCD instructors increased thanks to the combination of theory and practice. The interactive manner to produce a mentor guideline, so that mentors' experience could blend with instructors' theory, did produce an outcome that mentors endorsed.

5.1.4 Further Iterations

As mentioned previously in this study, mentors need to have certain characteristics to be able to effectively work with mentees. Although mentors can be trained in this area, they need to have the predisposition and interest to work with mentees. There should be a minimum standard of qualifications to select teachers and train them to be mentors. Among these qualifications, aptitude (e.g. language skills, leadership concepts, etc.) and attitude (e.g. motivation, cultural awareness, self-directed, etc.) will be crucial in the selection.

Because of the domino effect that I observed in this study, further studies should make sure that knowledgeable instructors are recruited and have a strong theoretical as well as practical knowledge in the area. Researchers should make sure that mentors have mastered each of the modules before moving to the next one and ensure that the link between learning of one skill does not hinder the learning of subsequent or dependent skills.

The skills that have been identified as harder to grasp in the area of instructional support and oral language will need more practice and demonstration for longer periods of time. Mentors stressed the value of reading articles on mentoring and coaching as a means to improve their support of mentees' training. Mentors also emphasized the importance of having ample opportunities to correctly practice the desired skills.

As an overall approach to improving the understanding of mentoring and the training in mentoring, this study could be used as a template to frame future interventions in other lab schools for ECE. In turn, repeated use of the template could provide sufficient information to better characterize the level of influence that the factors discussed here have on the final quality of mentoring skills.

Practitioners should not forget that mentoring, unlike coaching, involves developing a personal relationship between mentor and mentee, even though coach and student(s) can work together for extended period of time focusing on specific topics. This characteristic of mentoring implies a high level of investment, by mentor, mentee, and the institution

supporting them, which may not be possible in many educational settings. Investments include time, economic resources, energy, and expertise by all parties involved.

It is very important to have multiple data collection points (e.g. third party observations, mentor's self-assessments, and mentee's assessments) to ensure unbiased conclusions. Video-taping, self-reflections, and one-on-one interviews do provide the opportunity to understand the triggers of change. Lastly, collecting the same type of data at different points in time, before and many times after the intervention, to span a long transition, allows for a comprehensive understanding of the change process.

Further research is needed to determine whether the initial level of expertise shown by mentors precludes significant gains in regards to advanced skills, such as oral language and vocabulary in children. Complicating the analysis, there might be an unwillingness to learn, driven by poor motivation or lack of commitment.

There needs to be more collaboration between instructors and mentors in guiding mentees through theory and practice. Mentors need to be active participants of mentees' educational goals. At MC CDC instructors need to share mentees' evaluations of mentors and regularly meet with mentors to discuss and revise learning objectives for each mentee.

5.1.5 Re-Examining the Theory of Action

Given the nature of this study in regards to scale and funding, the theory of action did not provide much flexibility to have the researcher make significant course corrections along the way. For example, given that the training in oral language did not encompass all the elements needed, the researcher considered repeating the training with a new instructor. However, additional funding to pay for the new instructor was not available. Furthermore, the large scale of the intervention in terms of the interlock of activities only allowed for removing or modifying just a few intervention elements. I recommend for future efforts a more targeted type of intervention, with fewer dependencies, to provide greater flexibility to course correct.

Another recommendation for future studies is to pre-select mentors based on their ability and aptitude to becoming true mentors for mentees. As mentioned previously in this chapter, people need to have certain characteristics (aptitude and attitude) to become effective mentors.

I would also recommend that researchers consult the professional knowledge base to complement the areas in this research that were somewhat problematic such as the effect of language barriers in mentor mentee relationships, and the acquisition of collaboration techniques so that we can better train mentors in the skill of reciprocal feedback.

5.1.6 Action Research

This study took special care in mitigating bias and ensuring transferability of the design principles. This researcher did not have a significant participation in the execution of the intervention since I neither instructed, trained nor assessed mentors. I only facilitated the creation of the mentoring guideline for future use at the MC CDC. Instructors from the DCD were in charge of the professional development and a third party conducted all the observation protocols and interviews. Instructors and researcher collaborated to develop a number of learning materials such as curriculum, videotaping, workshops,

plus a significant data set of observation protocols and interviews. These materials can be used and refined in future iterations.

5.1.7 Study Limitations

The number of mentors (5) who participated in this study was a rather small sample for purposes of drawing more general conclusions about mentoring training of ECE teachers. The lack of mentor pre-selection reduced the pool of individuals with minimum proficiency to be analyzed for impact of the intervention over the course of the three modules. Two out of five showed no adequacy to have participated in the intervention.

5.2 Researcher's Conclusions on the Three Areas of Mentoring

The literature and this study both identify the mentoring areas of relationship building and instructional support as foundational.

In the area of relationship building, language barriers hinder a mentor's ability to communicate and transfer knowledge. Effective communication is much more than language abilities: mentors need to deeply know their mentees to determine what ideas and directives to exchange and how to do so to achieve the intended result.

Mentees also need to have a solid level of the instructional language, otherwise communication is constrained. The concept of reciprocal feedback was also hard to understand and grasp for mentors. The main problem centered on mentors' not being able to scaffold and exchange ideas back and forth. Mentors also struggled understanding that mentees needed to build their own knowledge rather than simply being told what and how something should be done.

The hardest skill to master within the context of oral language was the identification of deficiencies, often confused with typical behaviors of dual language learners. Improvements in this area heavily depended on progress made in instructional support, which in turn depended on gains in relationship building. There was a domino effect and, oral language, an area requiring advanced skills, needed a good number of opportunities to practice it before starting to produce positive results, assuming mentors have the willingness to learn and sufficient initial technical training.

A common observation was that mentors tended to link relationship building concepts with instructional support ideas when making associations of the right and wrong ways of doing things. It seemed that the mentors needed significant, deep, and lasting mentorship themselves before they could really be asked to mentor someone else.

5.3 Mentors' Conclusions on the Three Areas of Mentoring

Mentors gained, throughout the intervention, awareness of how their mentoring role could get better, although this fact did not necessarily lead to a change in behavior. Nonetheless it seems that awareness is a necessary first step.

Mentors' reflections provided insights into the scaffolding of skills they considered necessary to master them. For relationship building they listed (i) active listening, (ii) effective dialogue, (iii) initiating conversations, (iv) knowing how to provide feedback, and (v) learning how to build relationships in spite of language and cultural barriers. In their opinion more advanced skills that can be developed after mastering the foundational skills include (vi) constructive feedback, (vii) understanding mentee's perspective, (viii) handling conflict, and (ix) using questions to expand knowledge.

Mentors indicated when referring to instructional support that they should (i) learn how to scaffold learning for adults, (ii) identify mentees' thinking and needs, (iii) giving constructive feedback, and (iv) using different teaching styles. The latter was considered the hardest skill to master.

Regarding oral language mentors did not reflect properly, since it became clear that they did not understand the concepts.

However, mentors stressed the value of reading articles on mentoring and coaching as a means to improve their support of mentees' training. Mentor also emphasized the importance of having ample opportunities to correctly practice the desired skills.

5.4 Final Conclusion

This study identified areas of mentoring training where the knowledge base in professional development needs to be expanded. The literature falls short in shedding light on ways to train mentors so that they can work effectively with mentees. In particular, how these skills are acquired and the length of time needed to master these skills is still not very clear. This study shows that good mentoring training requires participant pre-selection, that there is a domino effect in the way skills are built or developed, and that sufficient practice of the desired skills is indispensable. Skill building in mentoring requires enough time to happen and varies from person to person, which makes planning these interventions more difficult.

Furthermore, mentoring training specifically in ECE, compared to other topics in ECE, also has a very limited professional knowledge base. The findings of this study should help determine the direction of further investigation and practical interventions in other lab schools.

Appendices

Appendix 1: Preliminary Evaluation of Local Needs Assessment

Survey I of Teachers (Mentors) and Co-lead teachers

When thinking about the different developmental domains below, which ones do you think you give priority to in your classroom? (Please rate in order of importance from 1 being the most important and five the least important).

- ☐ Self and Social Development
- ☐ Language and Literacy
- ☐ Cognitive Development
- ☐ Math
- ☐ Motor Perceptual Development
- ☐ Health and Self Health

Do you sometimes notice that some children have lower levels of oral language and vocabulary skills compared to others?

If so, how do you identify these children? What are the key signs?

How do you try to help the child?

In particular, what strategies do you use to increase oral language and vocabulary skills?

Do you know the vocabulary and pre-literacy skills that are needed for future reading comprehension skills? If so, please list some of these skills.

When observing your mentees, do you think he/she can notice a child that has lower levels of vocabulary and oral language skills?

When observing your mentee, do you think he/she understands the importance of oral language and vocabulary skills?

When working with your mentee, do you communicate the importance of developing children's oral language and vocabulary skills?

When working with your mentee, do you teach them how to identify children who show lower levels of oral language and vocabulary skills?

When working with your mentee, do you provide them with strategies (for the development of oral language and vocabulary skills) so that he/she is able to implement them in the classroom?

Survey II of Senior Teachers (Mentors)

I would like to talk to you about your role as mentor.

Could you please describe what your role as mentor is?

What are your responsibilities as mentor in the classroom? List them all in order of importance.

What are the best ways to train new teachers in the classroom? Please list the different ways that would be effective.

What are the major challenges when training a new teacher in the classroom?

Do you feel supported in your role of mentor teacher? What kind of support would you need to make your mentoring more effective?

Now, I would like to talk to you about oral language and literacy skills.

Could you please list the skills that new teachers need to have to expand oral language and vocabulary skills in children?

How do you communicate these skills and strategies to new teachers?

What type of strategies do you use to teach new students how to increase oral language and vocabulary skills?

How do you know when they have mastered the skill of increasing oral language and vocabulary skills in children?

How do you know when new teachers are not learning or not learning appropriately?

Interview of Senior Teachers (Mentors)

Please describe your role at MC CDC.

Describe the nature of your relationship with your mentees (it assumes one mentor has several mentees). What do you like and dislike about it? How would you label the level of collaboration with your mentee? What do you expect from your mentees regarding: following instructions, bringing issues openly? How do you encourage and assist mentees?

What are the different teaching approaches you use with your mentees? (provide illustrations to senior teacher).

Describe a mentee's observation exercise.

Describe one of your demonstration exercises.

How do you prepare for an observation and a demonstration?

What do you do after an observation and a demonstration?

How do you determine that a student teacher is learning?

What are the skills that a student teacher needs to develop through these exercises with you?

How do you craft a development plan with your mentee? (If any)

How do you rate your mentoring duties compared to other duties?

How often do you provide feedback to your mentees?

Interview of Student Teachers (Mentees)

Please describe your role at MC CDC.

Describe the nature of your relationship with your mentor. What do you like and dislike about it? How would you label the level of collaboration with your mentor? What do you expect from your mentor regarding: following instructions, bringing issues openly?

How do you assist your mentor?

Describe an observation exercise.

Describe one of your mentor's demonstration exercises.

How do you prepare for an observation and a demonstration?

What do you do after an observation and a demonstration?

How do you determine that you are learning?

What are the skills that you think you need to develop through these exercises?

What do you think about your development plan? (If any)

How do you rate your mentoring experience compared to other learning experiences at DCD?

How often do you provide comments and suggestion to your mentor?

Appendix 2: Assessment of Relationship Building and Communication

IMPACT Intervention Pre-test/Post-test Classroom Observation Protocol by Evaluator

Rating Scale: (1) Never; (2) Sometimes; (3) Often; (4) Very often

Never = less than 1 Sometimes= 1 to 2 times Often= 3 times Very often = more than 4

As an observer, on a rating scale of 1-4, with 1 representing “never” and 4 representing “very often”, answer the following: How often do mentor and mentee work together in activities that require cooperation?

Never 1 2 3 4 Very often

Probing Question(s):

Do they define a plan together? Does mentor elicits mentee’s opinion without imposition? (Please record evidence provide examples and explain your answer)

On the same rating scale, answer the following: How often do both mentor and mentee initiate conversations and interactions focused on classroom activities?

Never 1 2 3 4 Very often

Probing Question(s):

Who starts the conversations and interactions? (Please record all evidence and explain your answer)

On the same rating scale, rate the following: How often does the mentor give support to mentees when needed?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor assist mentee when she is struggling with an activity, a child, or making a decision? (Please record all evidence and explain your answer)

On the same rating scale, rate the following: How often does the mentor encourage input, ideas, or questions from mentees to involve them in the classroom?

Never 1 2 3 4 Very often

Probing Question(s):

Do you see mentee’s initiatives in action? (Please record all evidence and explain your answer)

On the same rating scale, rate the following: How often does the mentor give suggestions that allow mentees choice and discretion?

Never 1 2 3 4 Very often

Probing Question(s):

Do you see mentees making decision or just following orders ? (Please record all evidence and explain your answer)

On the same rating scale, rate the following: How often does the mentor try to get to know the mentees?

Never 1 2 3 4 Very often

Probing Question(s):

Does the mentor show genuine interest in the mentee? (Please record all evidence and explain your answer)

On the same rating scale, rate the following: How often is the mentor approachable?

Never 1 2 3 4 Very often

Probing Question(s):

Do you see body language that invites interactions? Does mentor address mentee warmly and respectfully? (Please record all evidence and explain your answer)

**Assessment of Relationship Building and Communication
Mentor Interviews with Evaluator**

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentor of a (group of) mentee(s), on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your ability to build collaborative relationships with your mentee.

Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate yourself as a [] (Please explain your answer)

Probing Question(s) only if mentor does not elaborate his/her answer:

How do you work together? (Please explain your answer)

How does your communication look like? Who starts the conversations and interactions? (Please explain your answer)

How does working together look like? (Please explain your answer)

How does giving feedback look like? (Please explain your answer)

Please describe your relationship with your mentee? (Please explain your answer)

Assessment of Relationship Building and Communication
Mentee Interviews with Evaluator

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentee, on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your mentor’s ability to build collaborative relationships.

Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate your mentor as a [] (Please explain your answer)

Probing Question(s) only if mentee does not elaborate his/her answer:

How do you work together? (Please explain your answer)

How does your communication with your mentor look like? Who starts the conversations and interactions? (Please explain your answer)

How does working together look like? (Please explain your answer)

How does giving feedback look like? (Please explain your answer)

Please describe your relationship with your mentor? (Please explain your answer)

Appendix 3: Assessment of Instructional Support

IMPACT Intervention Pre-test/Post-test Classroom Observation Protocol by Evaluator

Rating Scale: (1) Never; (2) Sometimes; (3) Often; (4) Very often

Never = less than 1 Sometimes= 1 to 2 times Often= 3 times Very often = more than 4

As an observer, on a rating scale of 1-4, with 1 representing “never” and 4 representing “very often”, rate the following: How often does the mentor seem to provide useful and constructive feedback.?

Never 1 2 3 4 Very often

Probing Question(s):

Do they define a plan together? Does mentor elicits mentee’s opinion without imposition? (Please provide examples and explain your answer)

On the same rating scale, rate the following: How often do mentor and mentee seem to have reflective, relevant conversations?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor provide guidance in a way that is conducive to learning? Does mentor show specific levels of individual support to mentees? Does mentor ask probing questions about what mentees are thinking of their own practice? Is the process structured?(Please explain your answer)

On the same rating scale, rate the following: How often does the mentor seem to provide individualized feedback to a mentee?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor actively listen to each mentee? Is feedback tailored to each individual? (Please explain your answer)

On the same rating scale, rate the following: How often does mentor seem to assign purposeful activities to mentees?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor assign solely clerical or menial activities? If not, what else? (Please explain your answer)

On the same rating scale, rate the following: How often does the mentor allow mentee to demonstrate their abilities?

Never 1 2 3 4 Very often

Probing Question(s):

Was it done timely and thoroughly? Was mentor able to explain the skill while demonstrating it? (Please explain your answer)

On the same rating scale, rate the following: How often do both mentor and mentee act as co-learners.

Never 1 2 3 4 5 Very often

Probing Question(s):

Do mentor and mentees actively engage in problem solving and decision making?
Do they generate solutions together? (Please explain your answer)

Assessment of Instructional Support
Mentor Interviews with Evaluator

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentor of a (group of) mentee(s), on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your ability to provide useful and constructive feedback.

Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate yourself at a [] (Please explain your answer)

Probing Question(s) only if mentor does not elaborate his/her answer:
Please describe how you give feedback?

What type of conversations do you have with your mentee?

What kind of activities do you assign to your mentee in the classroom?

What kind of things do you let your mentees do in the classroom?

How do you share responsibilities or decisions in the classroom, if any?

Assessment of Instructional Support
Mentee Interviews with Evaluator

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentee, on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your mentor’s ability in providing useful and constructive feedback

Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate your mentor at a [] (Please explain your answer)

Probing Question(s) only if mentor does not elaborate his/her answer:

Please describe how your mentor gives you feedback?

What type of conversations do you have with your mentor?

What kind of activities does your mentor assign to you in the classroom?

What kind of things does your mentor let you do in the classroom?

How do you share responsibilities or decisions in the classroom if any?

Appendix 4: Assessment of Oral Language and Vocabulary Skills

IMPACT Intervention Pre-test/Post-test Classroom Observation Protocol by Evaluator

Rating Scale: (1) Never; (2) Sometimes; (3) Often; (4) Very often

Never = less than 1 Sometimes= 1 to 2 times Often= 3 times Very often = more than 4

As an observer, on a rating scale of 1-4, with 1 representing “never” and 4 representing “very often”, answer the following: How often does mentor emphasize the importance of early detection of children with deficiencies and model the skills needed to support these deficiencies?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor show the importance of this? If so, what does the mentor do? (Please provide examples and explain your answer)

On the same rating scale, rate the following: How often does mentor seem to effectively model how to identify children with deficiencies in oral language?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor show proficiency in assessing a child’s level of development in oral language? How does the mentor model how to identify these problems? (Please explain your answer)

On the same rating scale, rate the following: How often does mentor seem to effectively model conversation strategies?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor model how to expand child’s short sentences? Does mentor model parallel talk? Does mentor model how to ask open ended questions? How does she do this? (Please explain your answer)

On the same rating scale, rate the following: How often does mentor seem to effectively model reading comprehension skills?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor model how to read a book? Does mentor model how to read print aloud? Does mentor model how to engage children in post reading discussion? How does she do this? (Please explain your answer)

On the same rating scale, rate the following: How often does mentor seem to effectively model academic language and concepts?

Never 1 2 3 4 Very often

Probing Question(s):

Does mentor expand vocabulary? Does mentor model how to practice songs, rhymes, and storytelling? How does she do this? (Please explain your answer)

Assessment of Oral Language and Vocabulary Skills
Mentor Interviews with Evaluator

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentor of a (group of) mentee(s), on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your ability to emphasize the importance of early detection of children with deficiencies and model the skills needed to support these deficiencies.

Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate yourself at a [] (Please explain your answer)

Probing Question(s) only if mentor does not elaborate his/her answer:

What kind of strategies have you modeled to help children with deficiencies?
(Please explain your answer)

Assessment of Oral Language and Vocabulary Skills
Mentee Interviews with Evaluator

Rating Scale: (1) Low; (2) Average; (3) High; (4) Very High

As a mentee, on a rating scale of 1-4, with 1 representing “low” and 4 representing “very high”, rate your mentor’s ability to emphasize the importance of early detection of children with deficiencies and model the skills needed to support these deficiencies.

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Low 1 2 3 4 Very High

Probing Question(s):

Why do you rate your mentor at a [] (Please explain your answer)

Probing Question(s) only if mentee does not elaborate his/her answer:

What kind of strategies has your mentor modeled to help children with deficiencies?
(Please explain your answer)

Appendix 5: Tool Development and Reflection Worksheet

Reflective Worksheets for the Three Modules

REFLECTIVE WORKSHEET - Session 1

At the end of the Session 1 of lectures for <Relationship Building/Instructional Support/Oral Language>, mentors were probed on the skills learned.

<Relationship Building/Instructional Support/Oral Language>	Reflective Worksheet
Session 1 Understanding the key skills of practice	Please indicate one or more skills that are relevant following this session.
	For each skill please indicate why it is relevant.
	Please indicate how you might incorporate one of these skills in your daily practice.

REFLECTIVE WORKSHEET - Session 2

At the end of Session 2 of lectures for <Relationship Building/Instructional Support/Oral Language>, mentors were probed on appreciation of key skills.

<Relationship Building/Instructional Support/Oral Language>	Reflective Worksheet
Session 2 Begin analysis & appreciation of key skills	Please indicate one or more skills learned that you need to work on and improve.
	Why did you feel that these areas or skills need improvement?
	Which skills were harder to identify?
	What can mentors do to improve these skills?
	How will you incorporate these skills in your daily practice?

Appendix 6: Rubrics to Evaluate the Effect of the Intervention

I have defined rubrics to assess how often mentors can demonstrate the skills learned in the intervention for each of the three modules:

- 1) Building relationships with the mentees that foster learning;
- 2) Providing feedback and support to improve instruction;
- 3) Modeling strategies on how to develop oral language and vocabulary skills in children.

Every module encompasses areas of expertise which in turn are divided into five to seven competencies ranked in levels of importance. For instance, some competencies are critical and cannot be omitted while others build on the critical ones.

From Demonstrations to Rubrics

At the core of the learning experience are the relationships built between mentors and mentees that serve as pillars or foundations of learning. Effective relationships are based on trust and a sense of identification with the other. The ability to connect with another person allows a real and authentic exchange of ideas, beliefs and attitudes.

Building relationships with the mentees that foster learning is a process. We start with the precondition of mentors having an approachable attitude (C7) and starting conversations frequently (C2). Once they combine these two competencies and show interest in their mentees (C6), including encouraging input (C4) and providing advice (C5), they start building relationships with their mentees. The process is firmed up by offering to work together (cooperation) (C1) and providing support (7).

Mentoring entails a two way directional flow of information between mentor and mentee. While mentees are constructing their knowledge and reaffirming their beliefs through the interactions with their mentors, mentors are also building new knowledge through their mentees. There are learning how to work with their mentees and mentees' framework of knowledge while at the same time questioning their own (the mentors') practice.

Providing feedback and support to improve instruction is a process based on two fundamental conditions: mentors' ability to provide constructive feedback (C1) and act as co-learners (C6) with their mentees. For this reason, once the fundamental skills are mastered, mentors can also engage in reflective conversations (C2) and provide individualized feedback (C3) given that each mentee has his/her own particular schema of knowledge. This skill is consolidated by the mentor's ability to select purposeful activities (C4) and encourage demonstrations by their mentees (C5) to further the learning experience.

Two of the most critical skills that children need in their early years are vocabulary expansion and sentence construction. Children from disadvantaged families often show deficiencies in these skills. The gap between their proficiency and the one of average students further widens as they start to attend elementary school. This achievement gap is often associated to the learning experience during these early years. It is critical that teachers in early childhood education acquire the necessary knowledge to work with children in oral language and vocabulary skills.

Modeling strategies to develop oral language and vocabulary skills for children builds upon first understanding the importance of early detection of relevant deficiencies

(C1) and knowing ways to identify these in children (C2). Once children with these deficiencies are identified, the most critical teacher competency is to be able to elicit frequent conversations (C3) with them to facilitate their learning. Without frequent conversations, children are limited in their development of oral language and vocabulary. This process is further expanded by encouraging children to improve reading comprehension skills (C4) and develop academic language (C5)

Appendix 7: Rubric for Relationship Building

Areas Defining Relationship Building

Relationship building is divided into two areas of expertise as follows:

- Effective communication
- Timely support

Each of them is characterized by certain competencies shown during observations made by a third party assessor. This assessor will capture the level of competency in each of the following:

Effective Communication:

- C2 Frequency of conversations *
- C4 Encouraging input (from the mentee)
- C6 Interest in mentee
- C7 Approachable attitude *

* From the competencies above, C2-Frequency of conversations and C7-Approachable attitude are critical conditions to begin mastering the skill of effective communication.

The assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor.

The frequency of values and their corresponding weights for computing averages are:

- “Never” (1);
- “Sometimes” (2) if 1 to 2 times;
- “Often” (3) if 3 times; and
- “Very often” (4) if more than 4 times

Based on these frequencies the levels of effective communication are defined as follows:

Good requires mastery of the two identified critical conditions. These critical skills (C2 and C7) will need to be observable often or very often. In addition, the mentor will need to demonstrate that he/she sometimes encourages input (from the mentee) (C4) and shows interest in the mentee (C6).

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor demonstrates neither one of the critical competencies (never observed) (C2 and C7) plus the average of all four competencies is lower than 2.5.

When all the possible permutations of all possible values for all four competencies are computed, for a total of 256 possibilities, the levels of effective communication are distributed in the following manner:

Poor	Fair	Good
73	147	36
29%	57%	14%

Timely Support:

C1 Level of cooperation

C3 Level of support*

C5 Providing advice

* From the skills above, C3-Level of support is a critical condition to begin mastering the skill of timely support.

Once again, the assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor. Using the same scale from 1 to 4, from “Never” (1) to “Very often” (4), the levels of timely support are defined as follows:

Good requires mastery of the critical competency (C3), observable often or very often. In addition, the mentor will need to demonstrate that he/she sometimes demonstrates level of cooperation (C1) and provides advice to the mentee (C5).

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor demonstrate less than once in the competency that is critical (C3).

When all the possible permutations of all possible values for all three competencies are computed, for a total of 64 possibilities, the levels of timely support are distributed in the following manner:

Poor	Fair	Good
16	30	18
25%	47%	28%

In summary:

Criteria	Good	Fair	Poor
Effective Communication Frequency of conversations (Q2) Encouraging input (Q4) Interest in the mentee (Q6) Approachable attitude (Q7)	A minimum of (2) in encouraging input and interest in mentee plus at least (3) in frequency of conversations and approachable attitude	Otherwise	A value of (1) in either frequency of conversations or approachable attitude plus an average of less than (2.5) in all four questions
Timely Support Level of cooperation (Q1) Level of support (Q3) Providing advice (Q5)	A minimum of (2) in level of cooperation and providing advice plus at least (3) in level of support	Otherwise	A value of (1) in level of support

Relationship Building

In order to analyze mentor's ability to build relationships that foster learning, we need to take into consideration a combination of both areas of expertise.

Exceed: Good level of competency in both Effective Communication and Timely Support.

Pass: A combination of Good and Fair in both Effective Communication and Timely Support.

Fair: Any combination including a Poor level of competency in Effective Communication or in Timely Support, or simply a Fair level in both.

Fail: A case of Poor level of competency in both Effective Communication and Timely Support.

In summary:

Level	Conditions for (Effective Communication, Timely Support)
Exceed	(Good, Good)
Pass	(Good, Fair), (Fair, Good)
Fair	(Good, Poor), (Poor, Good), (Fair, Poor), (Poor, Fair), (Fair, Fair)
Fail	(Poor, Poor)

Appendix 8: Rubric for Instructional Support

Areas Defining Instructional Support

Instructional support is divided into two areas of expertise as follows:

- Reciprocal feedback
- Fostering practice

Each of them is characterized by certain competencies shown during observations made by a third party assessor. This assessor will capture the level of competency in each of the following:

Reciprocal Feedback:

- C1 Constructive feedback *
- C2 Reflective conversations
- C3 Individualized feedback
- C6 Co-learners *

* From the competencies above, C1- Constructive feedback and C6- Co-learners are critical conditions to begin mastering the skill of reciprocal feedback.

The assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor.

The frequency of values and their corresponding weights for computing averages are:

- “Never” (1);
- “Sometimes” (2) if 1 to 2 times;
- “Often” (3) if 3 times; and
- “Very often” (4) if more than 4 times

Based on these frequencies the levels of reciprocal feedback are defined as follows:

Good requires mastery of the two identified critical conditions. These critical skills (C1 and C6) will need to be observable often or very often. In addition, the mentor will need to demonstrate that he/she sometimes has reflective conversations with mentee (C2) and provides individualized feedback to the mentee (C3).

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor demonstrates neither one of the critical competencies (never observed) (C1 and C6) plus the average of all four competencies is lower than 2.5.

When all the possible permutations of all possible values for all four competencies are computed, for a total of 256 possibilities, the levels of reciprocal feedback are distributed in the following manner:

Poor	Fair	Good
73	119	64
29%	46%	25%

Fostering Practice:

C4 Selecting purposeful activities

C5 Encouraging demonstrations

Once again, the assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor. Using the same scale from 1 to 4, from “Never” (1) to “Very often” (4), the levels of fostering practice are defined as follows:

Good requires mastery of competencies (C4 and C5), observable often or very often.

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor fail to demonstrate one of the competencies (never observed) (C4 or C5).

When all the possible permutations of all possible values for all two competencies are computed, for a total of 16 possibilities, the levels of timely support are distributed in the following manner:

Poor	Fair	Good
7	5	4
44%	31%	25%

In summary:

Criteria	Good	Fair	Poor
Reciprocal Feedback Constructive feedback (C1) Reflective conversations (C2) Individualized feedback (C3) Co-learners (C6)	A minimum of (2) in reflective conversations and individualized feedback plus at least (3) in constructive feedback and co-learners	Otherwise	A value of (1) in constructive feedback or co-learners plus an average of less than (2.5) in all four questions
Fostering Practice Selecting purposeful activities (C4) Co-learners (C6)	At least (3) in selecting purposeful activities and encouraging demonstrations	Otherwise	A value of (1) in either selecting purposeful activities or encouraging demonstrations

Instructional Feedback

In order to analyze mentor’s ability to provide instructional support, we need to take into consideration a combination of both areas of expertise.

Exceed: Good level of competency in both Reciprocal Feedback and Fostering Practice.

Pass: A combination of Good and Fair in both Reciprocal Feedback and Fostering Practice.

Fair: Any combination including a Poor level of competency in Reciprocal Feedback and Fostering Practice, or simply a Fair level in both.

Fail: A case of Poor level of competency in both Reciprocal Feedback and Fostering Practice.

In summary:

Level	Conditions for (Reciprocal Feedback, and Fostering Practice)
Exceed	(Good, Good)
Pass	(Good, Fair), (Fair, Good)
Fair	(Good, Poor), (Poor, Good), (Fair, Poor), (Poor, Fair), (Fair, Fair)
Fail	(Poor, Poor)

Appendix 9: Rubric for Modeling Strategies to develop Oral Language and Vocabulary Skills

Areas Defining Modeling Strategies

Modeling strategies is divided into two areas of expertise as follows:

- Identification of deficiencies
- Modeling skills

Each of them is characterized by certain competencies shown during observations made by a third party assessor. This assessor will capture the level of competency in each of the following:

Identification of Deficiencies:

C1 Importance of early identification

C2 Effective modeling of identification

The assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor.

The frequency of values and their corresponding weights for computing averages are:

- “Never” (1);
- “Sometimes” (2) if 1 to 2 times;
- “Often” (3) if 3 times; and
- “Very often” (4) if more than 4 times

Based on these frequencies the levels of identification of deficiencies are defined as follows:

Good requires mastery of competencies (C1 and C2), observable often or very often.

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor fail to demonstrate one of the competencies (never observed) (C1 or C2).

When all the possible permutations of all possible values for all four competencies are computed, for a total of 16 possibilities, the levels of reciprocal feedback are distributed in the following manner:

Poor	Fair	Good
7	5	4
44%	31%	25%

Modeling Skills:

C3 Conversations*

C4 Reading comprehension

C5 Academic language

* From the competencies above, C3- Conversations are critical conditions to begin mastering the skill of modeling skills.

Once again, the assessor will use the frequency of demonstration of the competency during observations of a couple of hours as an indicator of the level of proficiency developed by the mentor. Using the same scale from 1 to 4, from “Never” (1) to “Very often” (4), the levels of modeling skills are defined as follows:

Good requires mastery of the critical competency (C3), observable often or very often. In addition, the mentor will need to demonstrate that he/she sometimes models reading comprehension (C4) and academic language (C5).

Fair requires that the mentor be scored neither good nor poor.

Poor requires that the mentor demonstrate less than once in the competency that is critical (C3).

When all the possible permutations of all possible values for all three competencies are computed, for a total of 64 possibilities, the levels of timely support are distributed in the following manner:

Poor	Fair	Good
16	30	18
25%	47%	28%

In summary:

Criteria	Good	Fair	Poor
Identification of Deficiencies Importance of early identification (C1) Effective modeling of identification (C2)	A minimum of (3) for importance of identification and for effective modeling of identification	Otherwise	A value of (1) in early identification or effective modeling of identification
Modeling Skills Conversations (C3) Reading comprehension (C4) Academic language (C5)	A minimum of (2) in reading comprehension and academic language plus at least (3) in conversations	Otherwise	A value of (1) in conversations

Modeling Strategies to Develop Oral Language and Vocabulary Skills in Children

In order to analyze mentor’s ability to model strategies in oral language and vocabulary skills, we need to take into consideration a combination of both areas of expertise.

Exceed: Good level of competency in both Identification of Deficiencies and Modeling Skills.

Pass: A combination of Good and Fair in both Identification of Deficiencies and Modeling Skills.

Fair: Any combination including a Poor level of competency in Identification of Deficiencies and Modeling Skills, or simply a Fair level in both.

Fail: A case of Poor level of competency in both Identification of Deficiencies and Modeling Skills.

In summary:

Level	Conditions for (Identification of Deficiencies, Modeling Skills)
Exceed	(Good, Good)
Pass	(Good, Fair), (Fair, Good)
Fair	(Good, Poor), (Poor, Good), (Fair, Poor), (Poor, Fair), (Fair, Fair)
Fail	(Poor, Poor)

Appendix 10: Mentors Background

	M1	M2	M3	M4	M5
Age Group	50-65 yrs	20-35 yrs	35-50 yrs	50-65 yrs	50-65 yrs
Gender	Female	Female	Female	Female	Female
Level of Education	No degree (2 yrs in college)	B.A. (related field), M.A. (related field)	A.S. (related field)	B.A. (unrelated field) M.A. (related field)	B.A. (related field)
Before MC CDC:	4 yrs, non-profit	11 yrs, educator	3 yrs, services	8 yrs, administration	10 yrs, administration
At MC CDC:	10 yrs, educator	8 yrs, educator	14 yrs, educator	13 yrs, educator	15 yrs, educator
Formative years:	Western Europe	USA	South East Asia	USA	USA
Languages:	English as second language 3 foreign languages	English native speaker	English as second language 1 foreign language	English native speaker	English native speaker
Top learning traits:	Self-directed, practical, motivated	Self-directed, relies on personal experience, with high expectations	Less open-minded, relies on personal experience, slower learner	Self-directed, practical, motivated	Less open-minded, slower learner, relies on personal experience

Note: Top learning traits considered here include typical adult learner traits such as self-directed, practical and results-oriented, less open-minded, slower learner, relies on personal experience, motivated, with multiple responsibilities, with high expectations, among others.

Appendix 11: Mentors and Mentee Interview Assignments

Interview Time	Relationship Building		Instructional Support		Oral Language	
	Mentor Code	Mentee Code	Mentor Code	Mentee Code	Mentor Code	Mentee Code
1	M1	S3	M1	S4	M1	S3
1	M2	S7	M2	S7	M2	S9
1	M3	S15	M3	S12	M3	S10
1	M4	S16	M4	S16	M4	S19
1	M5	S23	M5	S26	M5	S29
2	M1	S4	M1	S4	M1	S4
2	M2	S5	M2	S5	M2	S5
2	M3	S10	M3	S10	M3	S10
2	M4	S22	M4	S22	M4	S22
2	M5	S29	M5	S29	M5	S29
3	M1	S30	M1	S30	M1	S30
3	M2	S32	M2	S32	M2	S32
3	M3	S37	M3	S37	M3	S37
3	M4	S38	M4	S38	M4	S38
3	M5	S44	M5	S44	M5	S44

Appendix 12: Lectures

Mentoring and Communication by Ellen Morrison

Ellen Morrison is the Assistant Director of the California Early Childhood Mentor Program (CECMP) and has been working in field of ECE for 12 years. The CECMP has been operating since 1988 from their offices in Chabot College and works with 104 community colleges designing training and providing professional development for the mentors in the program. Its goal is to offer professional development to teachers in the community and link theory to practice to increase the quality of care.

Ms. Morrison gave a lecture covering the following topics:

Tips on Mentoring

- Building a relationship
- Modeling
- Providing Feedback
- Invite reflection and mentees own discovery of things

Importance of communication

- Different ways of communicating
- Understanding how mentees communicate
- How to interact with the different styles

Dual Language Learners by Laurie Nielsen

Laurie Nielsen is an instructor at Mission College and has been working many years with the Inclusion Collaborative in the Santa Clara County Office of Education. Her presentation centered on Dual Language Learners and speech delays addressing:

- Language development milestones (English only)
- English language learners
- Speech and language disorder
- Strategies to support development of language skills in children

Appendix 13: Mentoring Practice Guideline

GUIDELINE

Relationship Building

1. Mentor is approachable:
 - Mentor smiles frequently and displays a relaxed posture
 - Mentor finds ways to make the mentee feel a sense of welcome and belonging
 - Mentor has a sense of genuine interest for the mentee
 - Mentor acknowledges their challenges openly
 - Mentor remains calm during a crisis or conflict
 - Mentor is flexible and open to change.
2. Mentor wants to get to know the mentees:
 - Mentor is open and willing to share with mentees
 - Mentor treats mentees with respect and sees them as peers.
 - Mentor demonstrates genuine interest in mentees' interests and learning
 - Mentor demonstrates the capacity to recognize and meet the mentee's individual learning needs
 - Mentor seeks to understand their mentee's background and interactions in the classroom.
 - Mentor demonstrates respect for and an understanding of the role of the student teacher/mentee in the classroom.
3. Mentor and mentee work together in activities that require collaboration.
 - Mentor see themselves as "co-learners" and their mentees as equals
 - Mentor interactions demonstrate confidence in mentee's abilities.
 - Mentor is aware of how individual differences influence mentee's approach and style
 - Mentor supports "risk taking" by supporting the mentee's ideas and initiative
4. Mentor supports mentees when needed.
 - Mentor provides encouragement and comfort to individual mentees when needed
 - Mentor employs a variety of approaches in working with individual mentees
 - Mentor provides information in a variety of ways
 - Mentor observes, asks questions and provides feedback
 - Mentor intentionally/actively demonstrates the skills they want mentees to learn
 - Mentor is role model and sets goals with mentees
 - Mentor provides direct instruction when necessary
 - Mentor provides help and support to the mentees (when struggling with an activity, a child, or making a decision)

Communication

5. Mentor and Mentee engage in reciprocal conversations and interactions that focus on classroom activities.
 - Mentor creates and maintains a time for regular, individual conversations with mentees
 - Mentor ensures conversations are free of distraction.
 - Mentor initiates frequent conversations with mentees about classroom practice.
 - Mentor asks open ended questions that seek to discover mentee's point of view
6. Mentor encourages input, ideas, or questions from mentees to involve them in the classroom.
 - Mentor is able to scaffold questions to support mentee's capacity to think critically and provide genuine input ("What did you feel was the most successful aspect of your activity?" vs. "How did you think your activity went?")
 - Mentor asks mentee for ideas and support for specific classroom practice and encourage mentee to implement ideas.
7. Mentor gives suggestions that allow mentees choice and discretion.
 - Mentor provides support and encouragement for mentees' ideas

Instructional Support

1. Mentor provides useful and constructive feedback.
 - Mentor provides feedback based on observation
 - Conversation is specific, clear, simple and direct.
 - Mentor is aware of personal biases and values that may influence feedback
2. Mentors initiate, encourage and participate in reflective, relevant conversations.
 - Mentor shares examples of reflective practice with mentee
 - Mentor suggests situations for reflection to mentee
3. Mentor provides individualized feedback to a mentee.
 - Mentor engages in active listening; asking questions or making comments that convey interest
 - Mentors provides feedback which reflects personal knowledge of the mentee's life, challenges and learning styles
 - Mentor encourages all (less talkative, or Non-Native English speaking (NNS)) mentees to speak frequently, confidently, and expansively with children.
 - Mentor encourages shy or Non-Native English speaking (NNS) mentees to use a public voice in the classroom when speaking, especially to a group of children
 - Mentor helps mentee be confident in front of children
4. Assign purposeful activities to mentees.

Mentor demonstrates an understanding of the role of the student teacher and ensures a balance of tasks and responsibilities are given to the student teacher/mentee.

5. Encourage mentee to demonstrate their abilities.

Mentor seeks mentees' input on their role and responsibility in the classroom

Mentor gives mentees time to problem-solve on their own.

6. Actively engage in co-learning.

Mentor demonstrates openness to new ideas and practices and a willingness to be challenged.

Mentor shares new and developing insights with mentee regularly.

Mentor frequently acknowledges mentee's specific contributions to the classroom.

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