

Copyright
by
Ying-Shu Chen
2008

**The Dissertation Committee for Ying-Shu Chen Certifies that this is the approved
version of the following dissertation:**

**The Nature of Teacher-Student Interactions during Communication
Intervention for Young Children with Developmental Disabilities
Including Severe/Multiple Developmental Disabilities**

Committee:

Mark O'Reilly, Supervisor

Shernaz B. García, Supervisor

Audrey Sorrells

James Schaller

Anna E. Maloch

**The Nature of Teacher-Student Interactions during Communication
Intervention for Young Children with Developmental Disabilities
Including Severe/Multiple Developmental Disabilities**

by

Ying-Shu Chen, B.S.; M.S.

Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

August 2008

Dedication

To God and my Parents

Acknowledgements

I thank God for giving me the privilege of going through this doctoral training. This Ph.D. degree has been completed through an enormous amount of support and encouragement from many people throughout these past years. I am extremely grateful to the many special people whom God has brought into my life. First and foremost, I am grateful to my parents, who have always had high expectations for me, great patience, and understanding towards me. I also deeply appreciate my two sisters, Ying-Shi and Ying-Ching and my two brothers, Yung-Chang and Jiun-Shiang who have taken up family responsibilities during my absence. They and their families have truly been a blessing to our parents and to me.

I owe a debt of gratitude to my American families, Daniel and Karen Evans, and their two children Nathan and Abby, and Daniel's parents Roger and Shirley Evans (Pepa and Mimi). Eight years ago, Daniel and Karen opened their arms and embraced their "Taiwanese sister", and Pepa and Mimi accepted me as their daughter. Since then, they not only have been my family, but they also have become my mentors and friends. The Evans family's continued encouragement and guidance has truly been an inspiration throughout the years. Here, I would like to give my special gratitude to Karen, my American sister and my spiritual teacher, who led me to know God and continued to guide me to draw closer to Jesus. Besides, she is always my first reader of all my papers and helps me to edit them. So, I always tell her this doctoral diploma belongs to both of

us. I am also grateful for my host family Uncle Phil and Auntie Ruth, whom I love dearly. They always believed in me and said, “You can do it!” Their kindness and care were a great comfort to me. I am also grateful to the brothers and sisters from Austin Chinese Christian Campus Fellowship (ACCCF) who have accompanied me, shared my joy and sorrow, supported me, and prayed for me for the past many years.

My highest gratitude goes to the dissertation committee. Dr. Beth Maloch, who was willing to be my methodology person, offered many insights and helpful feedback. Dr. Audrey Sorrells, and Dr. James Schaller have always provided me with valuable assistance and guidance since the early stages of this research. My deepest appreciation, however, goes to Dr. Mark O’Reilly and Dr. Shernaz García, who were my two supervisors of this dissertation. Dr. O’Reilly, who always gave me insightful instruction, shared his expertise and provided on-going support to allow me to work on the research topic that I was interested in. Dr. García, has been more than simply the co-chair for this dissertation’s committee. She has truly been the mentor who could see my potential and nurture me. In the past eight years, she has given me on-going support both in academics and in my life in Austin. Without her support, I could not have gone so far as to reach the Ph.D. I will be forever grateful for her excellent instruction and friendship.

**The Nature of Teacher-Student Interactions during Communication
Intervention for Young Children with Developmental Disabilities
Including Severe/Multiple Developmental Disabilities**

Publication No. _____

Ying-Shu Chen, PhD

The University of Texas at Austin, 2008

Supervisor: Mark O'Reilly and Shernaz B. García

Teachers' responses as well as the children's types of disabilities have a great impact on how often and in what ways the children will communicate with the teachers. (Lee, 2001; Wu, 2003). Limited research on teacher-student interactions in special education classroom settings raises a series of questions regarding the teachers' perspectives, teacher training, children's communication behaviors and their learning of social communication skills. The purpose of this study was to explore the nature of interactions between teachers and young children with developmental disabilities including severe/multiple developmental disabilities (SMDD) during communication interventions and how both were mutually influenced by such interactions. Specifically, the guiding questions were: (a) How did teachers interact with young children with

developmental disabilities during interventions? (b) Why did the teachers choose certain types of responses and strategies/techniques during interventions? and (c) What were the outcomes of the communication interventions for young children with developmental disabilities including SMDD? Using naturalistic inquiry as the research method, and drawing on sociocultural theory, this research constructed a case study of teacher-student interactions during communication intervention in one classroom in south Taiwan. Participants included three special educators and four students with developmental disabilities. Data sources included classroom observations, interviews with teachers, and document analysis. Data were analyzed using the constant-comparative method and discourse analysis.

The findings revealed that the three teacher participants made efforts to shape the young children's learning attitudes and behaviors. Yet, how they responded to the individual child was varied in terms of the young children's disabilities, their capabilities for communication, and their specific challenging behaviors. The communication interventions resulted in some positive outcomes of the children's social communication skills. However, the teachers' lack of knowledge and training of implementing assistive technologies limited their ability to carry out effective communication interventions for the child with SMDD. Further, the teachers' concerns for the children's utilization of appropriate social communication manners were influenced greatly by their own their professional training and perspectives which might be influenced by Chinese culture and

Confusion's philosophy. These findings have implications for further research, classroom practice, and teacher education.

Table of Contents

List of Tables	xii
CHAPTER ONE: INTRODUCTION	1
Social Communication Interventions	2
Why Study Teacher-Student Social Communication Interactions?	8
Sociocultural Theory and Social Communication Interactions.....	10
Social Communication Interactions and Discourse Analysis	11
Statement of the Problems	13
Purpose and Research Questions	15
CHAPTER TWO: LITERATURE REVIEW	17
Communication Characteristics of Young Children with Developmental Disabilities including SMDD	17
Studies of Social Communication Interventions	19
Sociocultural Theory and Studies of Teacher-Student Interactions.....	25
Taiwanese Cultural Values and Special Education in Taiwan.....	32
Summary.....	36
CHAPTER THREE: METHODOLOGY	38
Research Design	39
Context and Participants.....	42
Data Generation	48
Data Analysis.....	52
Building Trustworthiness.....	61
Establishment of Authenticity	66
Summary.....	70
CHAPTER FOUR: CONTEXTUALIZATION OF THE PHENOMENA	76
Overview of the Class	76
Teacher Participants.....	85
Student Participants	112

Summary	122
CHAPTER FIVE: PRESENTATION OF THEMES	124
The Patterns and Purposes of Teachers’ Communication Instructions	124
<i>Theme 1: Managing Inappropriate Behaviors by Providing Structure and Using Various Strategies</i>	125
<i>Theme 2: Teaching Appropriate Social Communication Skills to Replace their Inappropriate Communication Language and Behaviors</i>	142
<i>Theme 3: Code Switching to Ensure Children’s Comprehension</i> ..	160
Outcomes of the Communication Interventions	168
<i>The Children Were Able to Respond to the Teachers</i>	169
<i>Mixed Outcomes in Managing Children’s Challenging Behaviors</i>	177
Summary	181
CHAPTER SIX: DISCUSSION AND CONCLUSION	183
Working Hypotheses	184
Implications and Recommendations	201
Limitation and Utility of the Findings	212
Conclusion	215
Appendix A: Researcher as Instrument Statement	217
Appendix B: Teacher Consent Form in English	221
Appendix C: Teacher Consent Form in Chinese	225
Appendix D: Parent Consent Form in English	229
Appendix E: Parent Consent Form in Chinese	233
References	237
Vita	260

List of Tables

Table 1: Transcription conventions	72
Table 2: The translation synopsis of Taiwanese, Mandarin and English	74

CHAPTER ONE: INTRODUCTION

Young children with developmental disabilities including severe/multiple developmental disabilities (SMDD) may demonstrate restriction of motor performance and/or severe impairment of intellectual functioning, as well as limited language or speech competence. This group of children interacts more passively than typically developing children because of their limited social communication skills (Egel, 1981; Rincover, Newsom, Lovaas, & Koegel, 1977; Schepis & Reid, 1995). Social communication skills involve writing, speech, gestures, facial expressions, body language, physical contact, and many other modes of behavior (Orellove & Sobsey, 1996). For young children with developmental disabilities including SMDD, their major communication skills are non-verbal behaviors or non-symbolic communication such as pointing, reaching, grabbing objects, eye gaze, and facial expressions (Lee, 2001; Liu, 2003; Lo, 2003; Drasgow, 1997; Sigafoos, 2000). Their minimal communication skills may cause problems in interactions with adults who may misinterpret or not recognize their nonverbal communicative behaviors (Maddox, 1997). In addition, they may more easily develop inappropriate social communication behaviors such as challenging behaviors during their interaction with others (Sigafoos, 2000). Their lack of competence in social skills in interacting with people or responding to environmental stimuli impacts their learning of effective functioning in schools and communities (Egel, 1981; Rincover et al., 1977; Schepis & Reid, 1995). Moreover, researchers have shown that young children's early communication skills are positively related to later development of linguistic forms of expressive language and behavior (Calandrella & Wilcox, 2000;

McCathren, Yoder, & Warren, 1999; Sigafos et al., 2000). For example, early deficits may cause a cumulative, broad-range impact on later development of children's social and communicative functioning (Hwand & Carolyn, 2000; Warren & Yoder, 1993). Therefore, it is important for children with developmental disabilities including SMDD to have communication and social skills intervention in their early years.

Social Communication Interventions

The social communication characteristics of young children with developmental disabilities including SMDD are passivity and a lower frequency in initiating contact with others or environmental stimuli due to their extremely limited speech and communication competence. However, communication skills are critical “for developing and maintaining social relationships, learning, community living, and meeting almost all human needs” (Orelove & Sobsey, 1996, p.253). Many different terms refer to young children's social communication behaviors, such as “nonverbal”, “pre-verbal”, “non-symbolic”, “presymbolic”, “pre-language” communication, or “prelinguistic communication” (Downing & Siegil-Causey, 1988; Granlund & Olsson, 1999; Ogletree, 1995; Singer, 2001; Tait, Nikolopoulos, Lutman, Wilson, & Wells, 2001; Warren & Yoder, 1993). In this study, “prelinguistic communication” (Warren & Yoder, 1993) was used to describe young children's intentional communication behaviors, which include all forms of body movement, gesture, facial expression, eye gaze, vocal sounds, and “potential communicative acts” (Downing & Siegil-Causey, 1988; Sigafos et al., 2000).

Research on the communication skills of young children (aged less than 10 years) with developmental disabilities including SMDD has utilized behavioral approach interventions such as milieu language teaching including prelinguistic milieu teaching

(PMT) and enhanced milieu teaching (EMT) (Kaczmarek, Hepting, & Dzubak, 1996; Lee, 2001; McCathren, 2000), functional communication analysis and training (i.e., FCT) (Drasgow, 1997; Drasgow & Halle, 1995; Selinske, Greer, & Lodhi, 1991), as well as assistive techniques including augmentative and alternative communication (AAC) devices and microswitches (Chiu, 2004; Daniels, Sparling, Reilly, & Hymphry, 1995; Lancioni & Lems, 2001; Lancioni, O'Reilly, Oliva & Coppa, 2001a; 2001b; Lancioni, O'Reilly, Oliva, Singh, & Coppa, 2002; Lancioni, O'Reilly, Singh, Oliva, & Groeneweg, 2003; Lancioni, O'Reilly, Singh, Oliva, & Piazzolla, et al. 2002; Lancioni, O'Reilly, Singh, & Stasolla, et al., 2004; Lancioni, Singh, O'Reilly, & Oliva, 2002a; 2002b; 2003; Lancioni, Singh, O'Reilly, & Oliva, 2004; Lancioni, Singh, O'Reilly, Oliva, & Scalini et al., 2004; Lancioni, Singh, Oliva, & Scalini, et al., 2003; Liao, 1996; Schepis, Reid, Behrmann, & Sutton, 1998; Sullivan, Laverick, & Lewis, 1995). In addition, some studies combined FCT and AAC as a treatment package (Durand, 1999; Su, 2002).

Milieu teaching consists of a variety of naturalistic language teaching techniques such as modeling, mand-modeling, time delay, incidental teaching, and environmental arrangement which aim to establish children's spontaneous and initiated language (Kaczmarek et al., 1996; Lee, 2001; McCathren, 2000). Milieu teaching or milieu language teaching (MLT) uses many behavioral principles or techniques to teach young children new communication skills (Warren & Yoder, 1993). Milieu teaching strategies are implemented through the use of environmental arrangement, mand-modeling, time-delay procedures, as well as explicit prompts for specific communicative behaviors (Warren & Yoder, 1993). Studies on milieu teaching have focused on children's utterances and vocalizations, showing a positive effect on improving utterances and

intentional communication for children with mild to moderate mental retardation or language delay (Kaczmarek et al., 1996; Kaiser & Hester, 1994; McCathren, 2000; Warren, 1992; Warren & Gazdag, 1990; Warren & Yoder, 1993; Yoder & Warren, 1994). However, when applied to young children with developmental disabilities including SMDD, milieu teaching (including prelinguistic milieu teaching (PMT), and enhanced milieu teaching (EMT)) showed only a slight effect within three case studies (Kaczmarek et al. 1996; McCathren, 2000; Lee, 2001). For example, the subjects showed a slight increase from baseline in their rate of intentional communication behaviors during treatment sessions, and the data curve was unstable (Lee, 2001; McCathren, 2000). Milieu teaching concerns young children's speech and verbal expressions. However, for most young children with developmental disabilities including SMDD, they are nonverbal and might have difficulties with explicit verbal utterances; for this reason, milieu teaching may not be suitable for children with developmental disabilities including SMDD. If children with developmental disabilities including SMDD fail to make vocalizations during milieu teaching interventions, they may feel discouraged and are likely to exhibit challenging behaviors. In addition, Kaczmarek et al. (1996) found that the child with challenging behaviors generalized differently from the one with severe speech and language deficiencies. The authors concluded that it could be helpful to design more suitable language intervention programs if the teachers had a better understanding of the child's communication patterns and challenging behaviors.

Functional communication training (FCT) has been used to train children new appropriate social communication skills to substitute their challenging behaviors (Dragow & Halle, 1995; Durand, 1999; McCormick, Loeb, & Schiefelbusch, 1997).

Among the five studies on functional communication training (FCT) for young children with developmental disabilities including SMDD, two combined assistive techniques with FCT (Durand, 1999; Su, 2002). These studies found that FCT was effective in increasing children's initiative communication and decreasing their challenging or undesirable behaviors (Drasgow, 1997; Drasgow & Halle, 1995; Durand, 1999; Selinske et al, 1991; Su, 2002).

Assistive techniques use augmentative and alternative communication (AAC) systems and many different types of microswitches to facilitate the social communication skills of children with disabilities. Studies using assistive techniques are concerned more with children's functional communication (e.g., pointing to picture to express one's intention), not necessarily verbal communication (Kaiser & Lora 1995; Lacono & Duncum, 1995; Liao, 1996). Among the above studies, assistive techniques were applied most (n=20) to young children with developmental disabilities including SMDD. The reasons could be that the use of assistive techniques facilitated these children's expressions of needs more clearly. The targeted outcomes of these studies have been mainly intended to (a) improve people's direct access to environmental stimulation (Daniels et al., 1995; Lancioni & Lems, 2001; Lancioni et al., 2001a; 2001b; Lancioni, O'Reilly, Oliva, et al, 2002; Lancioni, O'Reilly, et al., 2003; Lancioni, O'Reilly, Singh, et al., 2002; Lancioni, O'Reilly, Singh, et al., 2004; Lancioni, Singh, O'Reilly, et al., 2002a; 2002b; 2003; Lancioni, Singh, O'Reilly, Oliva, Scalini, et al., 2004; Lancioni, Singh, Oliva, et al., 2003; Sullivan et al., 1995), (b) increase making request/choice of environmental stimulation (Durand, 1999; Lancioni, Singh, O'Reilly, & Oliva, 2004; Schepis et al., 1998), (c) enhance spontaneous communication and responses to others

(Liao, 1996), (d) increase initiative communication and decrease challenging behaviors (Su, 2002), and (e) improve acquisition of picture, voice, and vocabulary (Chiu, 2004). Most of the above studies (80%) had positive outcomes such as improved direct access or request/choice of stimulation.

Young children with developmental disabilities might benefit from the above social communication interventions; however, the effectiveness and appropriateness of the treatment need to be examined. From the above studies, it seems that milieu teaching is mostly used to increase utterances and vocalizations for children with mild to moderate mental retardation or language delay. However, three studies using this approach with children with developmental disabilities including SMDD yielded limited effects with an unstable data curve (McCathren, 2000; Lee, 2001). Five studies utilizing FCT to increase children's initiative communication and decrease their challenging behaviors found positive results (Drasgow, 1997; Drasgow & Halle, 1995; Durand, 1999; Selinske et al., 1991; Su, 2002). Among them, two combined assistive techniques as a treatment package (Durand, 1999; Su, 2002). Such limited data do not provide adequate support for the effectiveness of FCT on children with developmental disabilities including SMDD. Moreover, although the utilization of assistive techniques has been found effective in improving some communication skills for children with developmental disabilities including SMDD, it is not applied widely by teachers in their teaching settings (Wang, 2004). Therefore, besides the intervention strategies/techniques research is needed to investigate how other factors including teachers, children, and teacher-children dyad interactions contribute to teachers' application and selection of these social communication interventions.

Much research has focused on examining the roles of teachers. The researchers found that the factors contributing to teachers' selection and implementation of social communication interventions involve the teachers' education and training background, their professional knowledge and competence, as well as their perspectives of teaching young children with developmental disabilities including SMDD (Chen & Turner, 2003; Hsueh, 2003; Kang, 2001; Kaczmarek et al., 1996; Wang, 2004).

On the other hand, factors contributing to the occurrences of children's social communication behaviors are affected not only by the intervention strategies but also by some other important variables such as children's disability level, their communication forms and patterns (verbal and nonverbal behaviors), and teachers' responses (Lee, 2001; Wu, 2003). Besides the limitations of children with disabilities, researchers emphasized that the dynamic interactions between teachers and children have a great impact on the acquisition and performance of children's social communication skills (Lee, 2001; Wu, 2003).

In the past, social communication interventions studies seldom focused on examining the relationships between teachers and students with disabilities (Boardman, 2005). Since the dynamic interaction between teachers and young children with developmental disabilities including SMDD is an important factor in understanding teachers' selection and implementation of social communication interventions and the outcomes of these treatments, it is necessary to examine how they are trying to communicate with each other in the first place. For this reason, there is an urgent need to investigate the relationships between social communication behaviors of young children

with developmental disabilities including SMDD and teachers' teaching strategies and responses during interventions, as well as their mutual influence.

Why Study Teacher-Student Social Communication Interactions?

Drasgow and Halle (1995) argued that language and communication are complicated. In 1995, they used a case study to demonstrate a social communication model including assessment and intervention. The results indicated that social communication was complex yet important and it had a pervasive impact on young children with developmental disabilities including SMDD in their entry into their school and community. In addition, the researchers also emphasized that teachers must recognize and nurture the inextricable relationship between these children and their social and physical environments (Drasgow & Halle, 1995). However, Maddox (1997) found that teachers are not always aware of the meanings of these children's communication behaviors or in what ways their interactions with the children are being effective. Moreover, most of the teachers feel that they do not always feel prepared, nor do they have the skills in teaming and collaboration to teach children with developmental disabilities including SMDD (Chen & Turner, 2003; Schuum, Vaughn, Gordon, & Rothlein, 1994). Therefore, there is often a gap between teachers' perceptions and practices during the teaching process.

As a doctoral student in special education focusing on the area of autism and developmental disabilities, I have been trained to use behavioral models to implement communication interventions for children with disabilities during the past five years. I know very well how to implement assistive technologies to help individuals with developmental disabilities including SMDD for social communication, as well as what

the limitations of these technologies are. I agree that behavioral approach interventions have positive benefits for these children with disabilities. However, before assisting teachers to implement effective social communication interventions using assistive technologies in classroom settings, I feel there is an urgent need to understand the social communication interaction between teachers and children with developmental disabilities including SMDD in natural settings during communication interventions.

In addition to my training in behavioral approach interventions for children with developmental disabilities including SMDD, I also have a strong background in psychology and counselor training and have worked as a para-professional counselor at a non-profit institution for more than five years. Besides, as a special education teacher for seven years I strongly believe that “The success of the process of teaching and learning depends on contributions by both teachers and learners” (Mercer, 1995, p.44). I believe that social communication must be examined in multiple aspects and communication research should involve both teacher-student interactions and their environments. My argument also corresponds to the recent developments of communication research, which has indicated that children’s social communication performances need to be studied and understood in a context as situated social cultural practice (Ozbilgin, 2005). For this reason, in order to help children to learn appropriate social communication skills through providing effective interventions by teachers, the sociocultural theory, which according to Boardman is (2005) “based on the notion that children learn through participation in social contexts”, could be the suitable framework to investigate the complex social communication interactions between teachers and children with developmental disabilities including SMDD (p.3).

Sociocultural Theory and Social Communication Interactions

Based on sociocultural theory, learning occurs through the social interaction of people entrenched in a bigger sociocultural context (Boardman, 2005; Wertsch, 1991). As Mahn (1999) puts it, “individuals construct new knowledge as they internalize concepts appropriated through participation in social activities” (p.344). In line with this view, I argue that the learning of young children’s social communication interactions could be more than what Gee (1996), a sociolinguist, insisted – that it has “different effects in different social settings and none apart from such settings;” it also has different effects with different people with different perspectives and backgrounds (p. 46).

Vygotsky revealed the significant role of social interaction in the cultural developmental context related to children’s acquisition and internalization of appropriate social communication skills and language (Mahn, 1999). According to Vygotsky (1978), a child’s learning occurs first on the social plane involving interaction with others, and then on the psychological plane within the child’s cognitions. Learning, hence, is a dyadic interaction and the teacher plays a significant role in assisting the students to reach the Vygotskian “zone of proximal development” (ZPD), which is defined as “a window of potential learning that lies between what he or she [the student] can manage to do unaided and what he or she can achieve with help” (Wells, 1999, p.296).

Since the teachers play an essential role in facilitating children’s learning, research on social communication interactions between teachers and children with developmental disabilities including SMDD should aim to find out not only the teachers’ perspectives regarding teaching young children with developmental disabilities including SMDD, but also the contextual influences (e.g., environments) of their decision making

in the teaching process, as well as the way children's responses influence teachers' teaching. Traditionally, research on children with disabilities has focused on the use of communication intervention strategies or techniques but no study has investigated the social communication interactions between teachers and children with developmental disabilities including SMDD. Thus, we do not understand the connection of teacher discourse and social interactions during communication intervention in classroom settings for these children. The lack of understanding of teacher-student interactions could lead to problems regarding the provision of suitable teacher training, as well as efficient special education services for children with developmental disabilities including SMDD. Hence, there is an urgent need for further investigation of the social interactions between teachers and students with developmental disabilities including SMDD during communication interventions. The work from the last twenty-five years on teacher-student social interactions has focused on teacher talk and its connected impact on students' learning (Fisher, 2005). A great awareness of the sociocultural nature of language and classroom discourse has developed recently (Fisher, 2005). Hence, the analysis of classroom discourse provides the most appropriate approach to examine teacher-student social interactions.

Social Communication Interactions and Discourse Analysis

Boardman (2005) investigated interactions between teachers and students with learning disabilities in general education classrooms. This study used qualitative methods within the sociocultural theoretical framework and discourse analysis (Fairclough, 1992; Gee, 1999) to explore teacher-student interactions. Different from many teaching techniques, classroom discourse is not only an instructional strategy/technique to assist

students in learning academic concepts; it also embodies the social system of the classroom (Cazden, 2001). Boardman's (2005) study provided a model for understanding the values of teacher-student interactions in terms of both student outcomes and teacher perspective to work with students with learning disabilities.

Discourse analysis has also been utilized to investigate communication or interactions of children with autism, Asperger syndrome, or speech and language impairments (e.g., Adams, Green, Gilchrist, & Cox, 2002; Scherer & Olswang, 1989; Yont, Hewitt, & Miccio, 2002). The findings of relevant studies provide ample support that discourse analysis could yield better insights into the nature of communication or social interactions of children with disabilities. Even though discourse analysis has been utilized to investigate social communication between teachers and children with some level of disabilities and has provided better evidence of their interactions, it has not been applied to research on children with developmental disabilities including SMDD. It may be because most people are uncertain if discourse analysis can be used to analyze the social communication skills for young children with developmental disabilities including SMDD and those who are non-verbal. However, as defined in this study, social communication behaviors include all forms of body movement and non-verbal behaviors, which are the primary social communication skills for young children with developmental disabilities including SMDD. By describing the context and interchange of interactions such as conducting a functional analysis of behaviors (i.e., examining a chain of Antecedent-Behavior-Consequence events) we may ultimately reveal the intended meaning of the behaviors. Besides, since most children with developmental disabilities including SMDD are non-verbal or with very limited verbal competence,

while working with these children the teachers' talk and interpretation of the meaning of children's social communication behaviors should have a significant influence on children's learning of social communication skills and their communication performances, and vice versa. In fact, there is often miscommunication between teachers and young children with developmental disabilities including SMDD because teachers may not always recognize the communication behaviors of these children, or they find it hard to figure out these children's intention (Maddox, 1997). Because of the high pace and the complex nature of the classroom environment, researchers have suggested that teachers are not always cognizant of their actions and talk in the classroom (Good & Brophy, 2000). For these reasons, it is vital for me not only to analyze teachers' interview data but also to examine the classroom discourse to obtain a clear picture of the nature of communication during social communication interventions.

Statement of the Problems

Young children with developmental disabilities including SMDD possess minimum communication skills leading to problems where parents and teachers fail to recognize, interpret or respond consistently to their behaviors (Maddox, 1997). Moreover, these children's learning of effective functioning in schools and communities, as well as their later social communication developments are also critically affected by their social communication skills (Calandrella & Wilcox, 2000; Egel, 1981; Hwang & Hughes, 2000; Maddox, 1997; McCathren et al., 1999; Rincover et al., 1977; Schepis et al., 1998; Warren & Yoder, 1993). Therefore, the social communication interventions for these children are especially important for them. However, some effective social

communication interventions, such as the use of assistive techniques, are not used widely by teachers in their teaching settings (Wang, 2004).

Existing social communication interventions adopting behavioral approaches might provide some benefits in facilitating the social communication skills for young children with developmental disabilities including SMDD, yet these approaches seldom focus on the relationship between young children with developmental disabilities including SMDD and their social environment including teachers' response and school settings (Drasgow & Halle, 1995). However, the learning of social communication skills cannot be understood by examining the treatment strategies/techniques only or by testing the individual alone (Boardman, 2005). Examining interactions between children with developmental disabilities including SMDD and their teachers should be a crucial issue in providing a better understanding of the practice of social communication interventions.

The lack of understanding of teacher-student interactions in classroom settings raises a series of questions regarding teachers' perspectives, teacher training, children's communication behaviors and their learning. Without understanding the dynamics of teacher-student interactions, we cannot (a) understand teachers' perspectives and needs while working with young children with developmental disabilities including SMDD, (b) realize how teachers interpret and respond to the social communication behaviors of young children with developmental disabilities including SMDD, and (c) provide suggestions for teacher education and training, and for teachers' selection of appropriate and effective communication interventions for these children. However, very few studies have focused on examining the social interactions between teachers and students with disabilities. No study has explored the nature of communication between teachers and

students with developmental disabilities including SMDD, which occurs in classroom settings. It is obvious that for a long time, the real state of natural social interactions of teachers and children with developmental disabilities including SMDD has been hidden in a black box with no research to uncover it.

Boardman (2005) indicated that qualitative research with discourse analysis to study classroom talk could provide a better understanding and investigation of teacher-student interactions. Yet, there was a lack of understanding of the interactions between children with developmental disabilities including SMDD and their teachers due to an absence of research exploring the nature of communication during social communication interventions. This study aimed to fill the void in the field by conducting a case study based on sociocultural theory with discourse analysis to investigate the social interactions between children with developmental disabilities including SMDD and their teachers.

Purpose and Research Questions

The purpose of this study was to explore the nature of communication between teachers and children with developmental disabilities including SMDD during communication interventions. My broad research questions were: what is the nature of communication between teachers and students during communication intervention activities, and how do the interactions influence both teachers and students? The following questions will be used to guide this study: (a) How do teachers interact with young children with developmental disabilities including SMDD during interventions? (b) Why do the teachers choose certain types of responses and strategies/techniques during interventions? (c) What are the outcomes of the communication interventions for young children with developmental disabilities including SMDD?

In sum, a series of questions regarding teachers' perspectives about working with young children with developmental disabilities including SMDD, teacher training, children's communication behaviors and their learning of social communication skills cannot be answered due to the lack of understanding of the connection of teacher talk and social interactions during communication interventions in classroom settings for children with developmental disabilities including SMDD. Until now, research has not yet investigated the topic of teacher-student interactions within the area of severe/multiple disabilities. The aim of the study was to fill the research gap and the results provided clear insights for researchers, teachers, and other related special education professionals to recognize the mutual influence of teachers' verbal and nonverbal communication behaviors and young children's communication actions. Teachers' perspectives of working with young children with developmental disabilities including SMDD and the outcomes of the social communication interventions were illustrated as well.

CHAPTER TWO: LITERATURE REVIEW

Communication Characteristics of Young Children with Developmental Disabilities including SMDD

Severe/multiple disabilities, defined by the *Funding Manual for School Authorities*, refer to cases where an individual (a) has two or more non-associated moderate to severe cognitive and/or physical disabilities which in combination result in the individual functioning at severe to profound level; and (b) requires considerable special programs, resources and/or therapeutic services (Alberta Learning of Special Education Branch, 2002). According to National Dissemination Center for Children with Disabilities (2004), children with severe/multiple developmental disabilities may exhibit a wide range of characteristics, depending on the combination and severity of disabilities, and the children's age. There are, however, some traits they may share, including: (a) limited speech and/or communication competence; (b) restriction in basic physical mobility; (c) tendency to forget learned skills through disuse; (d) difficulty generalizing skills from one situation to another; (e) frequent additional disabilities, including movement difficulties, sensory losses and behavior problems, and (f) a need for support in daily and major life activities (e.g., domestic, leisure, community use, vocational) (National Dissemination Center for Children with Disabilities, 2004). As such, these children require ongoing, extensive support in order to participate in schools and integrated community settings. Thus, it is important to increase the opportunities for these children to get in touch with other people and communicate with others.

Communication is a complex process of information transport for individuals to respond and influence the behavior of others, as well as engage in social communities.

The forms of communication include writing, speech, gestures, facial expressions, body language, physical contact, and many other modes of behavior (Orelove & Sobsey 1996). For young children with developmental disabilities including SMDD, the most significant challenge is their social communication interactions because of their limited speech and communication skills. Research has found that children with developmental disabilities including SMDD engage in social interaction at a low frequency, as indicated in behaviors such as few initial communication behaviors, little response to adults or peers, fewer joint attention behaviors (e.g., pointing behaviors), fewer requesting behaviors than normal children, use of a lot of non-verbal behaviors or non-symbolic communication (e.g., reaching, grabbing objects directly, eye gaze, escape), and sometimes challenging behaviors during social interactions (Lee, 2001; Liu, 2003; Lo, 2003; Drasgow, 1997; Sigafos, 2000). Because of this barrier in verbal expression, their communication meanings are easily misinterpreted or ignored by adults and peers (Halle, Brady, & Drasgow, 2004; Maddox, 1997). This situation can pose difficulties to children with developmental disabilities including SMDD in participating in group activities, and may result in a lack of cooperation with peers. Hence, these children become lonely and isolated within their group.

In the past, students with severe/multiple disabilities were routinely excluded from public schools. Since the implementation of Public Law 94-142 (the Education of the Handicapped Act, now called the Individuals with Disabilities Education Act, or IDEA), public schools in the United States now serve large numbers of students with severe/multiple developmental disabilities. (National Dissemination Center for Children with Disabilities, 2004). For young children with developmental disabilities including

SMDD, social communication skills are extremely important to access major functioning in their life such as domestic, leisure/recreational, community, and vocational activities. Consequently, in order to be effective, special educational programs, especially social communication intervention, should begin as early as possible and need to incorporate a variety of components to meet the considerable needs of children with developmental disabilities including SMDD.

Studies of Social Communication Interventions

Research on young children's communicative behaviors has used many different terms such as "nonverbal", "pre-verbal", "non-symbolic", "presymbolic", "pre-language" communication, or "prelinguistic communication" (Downing & Siegil-Causey, 1988; Granlund & Olsson, 1999; Ogletree, 1995; Singer, 2001; Tait et al., 2001; Warren & Yoder, 1993). These terms all indicate that young children's intentional communication behaviors include not only speech and language but also all forms of body movement, gesture, facial expression, eye gaze, vocal sounds, and other expressions that are not part of symbolic communication systems or potential communicative acts (PCA) (Downing & Siegil-Causey, 1988; Sigafos et al., 2000).

Because young children with developmental disabilities including SMDD are typically inactive with extremely limited social communication skills, the studies of social communication interventions for young children (age under 10) with developmental disabilities including SMDD tend to target mainly the following five outcomes: (a) improve children's direct access to environmental stimulation (Daniels et al., 1995; Lancioni, Singh, Oliva, et al., 2003; Lancioni, Singh, O'Reilly, & Oliva, 2004; Sullivan et al., 1995), (b) increase making request/choice of environmental stimulation

(Durand, 1999; Lancioni, Singh, O'Reilly, & Oliva, 2004; Schepis et al., 1998), (c) enhance spontaneous, initiated and responded communication (Kaczmarek et al., 1996; Lee, 2001; Liao, 1996; McCathren, 2000), and (d) increase initiative communication and decrease challenging behaviors or replace old/undesirable forms of behaviors (Drasgow, 1997; Drasgow & Halle, 1995; Durand, 1999; Selinske et al., 1991; Su, 2002), and (e) improve acquisition of picture, voice, and vocabulary (Chiu, 2004). The intervention strategies include milieu language teaching (including prelinguistic milieu teaching (PMT) and enhanced milieu teaching (EMT)), functional communication analysis and training, as well as assistive techniques including augmentative and alternative communication (AAC) devices and microswitches.

Milieu Teaching

Lee (2001) implemented the environmental arrangement strategy which utilized generalization settings to improve the occurrence of children's non-symbolic communication. This strategy draws on one of the assumptions of milieu teaching that "the child's natural environment(s) is the best setting for language intervention" (McCormick et al., 1997, p.351). Milieu teaching includes prelinguistic milieu teaching (PMT) (Warren & Yoder, 1998), and enhanced milieu teaching (Kaiser, Yoder & Keetz, 1992) consists of a range of naturalistic language teaching techniques such as modeling, mand-modeling, time delay, incidental teaching, and environmental arrangement, which intend to increase children's spontaneous and initiated language (Kaczmarek et al., 1996; Lee, 2001; McCathren, 2000; McCormick et al., 1997).

There are four basic teaching procedures of milieu teaching: (a) modeling (e.g., the adult direct says a word or sentence and asks the child to imitate by repeating it); (b)

mand-modeling (mand is Skinner's term for a request). The procedure involves an adult asking the child a question; if the question is beyond the child's capability to answer or if the child gives an incorrect response, then the adult will deliver a corrective model to the child. If the child gives a correct response, the adult will give the child a reinforcer such as praise or desired object and/or activity); (c) time delay (e.g., the adult delays responding until the child requests or comments); and (d) incidental teaching which is used to elicit more elaborate language and improve conversation skills (Kaczmarek et al., 1996; McCathren, 2000; McCormick et al., 1997).

Three case studies utilizing milieu teaching for children with developmental disabilities including SMDD were shown to be only slightly effective. Two studies showed that although the subjects showed slightly higher frequencies of communication responses within the treatment sessions than in the baseline sessions, the data curve was unstable (Lee, 2001; McCathren, 2000). In addition, Kaczmarek et al. (1996) found that the two child participants were able to generalize to different situations; however, they could only partially explain how the children generalized so differently. Besides, they concluded that if the teacher and teacher assistant have a better understanding of how the child's challenging behaviors interfere with his communication, they could design more efficient language intervention programs for them.

It is obvious that milieu teaching focuses more on young children's verbal expression. However, with nonverbal or children with developmental disabilities including SMDD, it would be difficult to draw forth their verbal communication. In addition, if children with developmental disabilities including SMDD are frustrated at failing to imitate up to the adults' demand or have difficulty expressing their intention

through language, they may easily display challenging behaviors such as aggravation, tantrum, cry, and escape.

Functional Communication Training

The utilization of functional communication analysis and training aims to replace children's challenging behavior with appropriate social behaviors (Drasgow, & Halle, 1995; Durand, 1999; McCormick et al., 1997). Studies on functional communication training (FTC) for young children with developmental disabilities including SMDD have found positive effects, which increase children's initiative communication and decrease their challenging behaviors or undesirable behaviors (Drasgow, 1997; Drasgow & Halle, 1995; Durand, 1999; Selinske et al., 1991; Su, 2002). Two of the above studies combined functional communication training (FCT) and assistive communication devices (Durand, 1999; Su, 2002). Su (2002) found that children with developmental disabilities including SMDD increase their initiative communication behaviors by giving them augmentative alternative communication (AAC) training. Thus, children's challenging behaviors decrease because they learn to use AAC devices to express their intentions.

Assistive Techniques

Since one of the communication characteristics of children with developmental disabilities including SMDD is extremely limited speech competence, most studies (n=20) on social communication interventions for children with developmental disabilities including SMDD employed assistive techniques such as augmentative and alternative communication (AAC) systems and microswitches. AAC systems include communication boards, picture communication symbols, or different kinds of electronic communication devices. Studies on augmentative and alternative communication (AAC)

systems were concerned more with functional communication (e.g., pointing to pictures to express one's intention), not necessarily verbal communication (Kaiser & Lora 1995; Lacono & Duncum, 1995; Liao, 1996).

There are various types of microswitches such as optic, mercury, vibration, wobble, and grip microswitches. The primary application is to activate one or more cassette players or other stimulation sources to get favorite environment stimuli such as a toy, music, or an activity. A number of studies have implemented microswitches interventions mainly to improve children's direct access to environmental stimulation (Daniels et al., 1995; Lancioni, O'Reilly, et al., 2003; Lancioni, O'Reilly, Oliva, et al., 2002; Lancioni, O'Reilly, Singh, et al., 2002; Lancioni, O'Reilly, Singh, et al., 2004; Lancioni, Singh, O'Reilly, et al., 2002a; 2002b; 2003; Lancioni, Singh, Oliva, et al., 2003; Lancioni, Singh, O'Reilly, Oliva, Scalini, et al., 2004; Sullivan et al., 1995).

Besides direct access to environmental stimulation, making choices and requests are the important goals for social communication interventions. Studies on social communication intervention found that implementing microswitches allow children with developmental disabilities including SMDD to make a choice or request more clearly (Durand, 1999; Lancioni, Singh, O'Reilly, & Oliva, 2004; Schepis et al., 1998).

Implementing microswitches not only allows children to access environment stimuli but also allow them to make requests/choices of favorite objects or activities. Additionally, assistive techniques have also been used to improve children's acquisition of pictures, voice, and vocabulary. For example, Chiu (2004) examined the cooperative learning performance of three elementary school students with moderate and severe mental retardation in Chinese by using Computer Assisted Instruction (CAI). The study used the

changing criterion design of the single subject research method and got some positive results: they found significant effectiveness on the acquisition and retention of the learning of pictures, voice, and Chinese vocabulary for students with moderate and severe mental retardation by using CAI teaching methods.

Although using AAC or microswitches to facilitate children's social communication skills have positive results, to apply these treatments some factors (including the assistive techniques themselves, students, parents, teachers, and social environments) have to be considered (Wu, 2003). For example, the assistive technique devices have to be adapted to the individual's specific use because it is difficult to figure out the intention of children with developmental disabilities including SMDD. Sometimes it is difficult to know whether the individuals activate the microswitches intentionally or by chance. Some other limitations of implementing assistive technique devices are that they might be cumbersome to carry, or it might be difficult to teach young children to understand the use of the devices, thus limiting their use. Moreover, parental attitudes, teachers' perceptions, professional knowledge and training, the resource of assistive technologies, as well as the disability level of these children may also influence the implementation of these assistive techniques (Wu, 2003).

Review of Studies of Social Communication Interventions

More than 80% of social communication interventions, especially the implementation of assistive techniques, got positive results. However, more than 60 % of the above studies occurred in rehabilitation centers or university-based therapy rooms, and the primary facilitators were trainers or researchers. Wang (2004) surveyed 152 special education teachers in Taiwan and found that 60% of the teachers knew how to

utilize the equipment of assistive technology, and 42% provided integration strategies in some courses and the frequency of utilization was once a week. Therefore, even though social communication interventions are expected to effectively facilitate one or more communication skills for children with developmental disabilities including SMDD, the intervention techniques have not yet been applied widely in classroom settings (Wang, 2004). Besides the limitations of intervention techniques, teachers' education and training background, their professional knowledge and competence, as well as their perspective of teaching children with developmental disabilities including SMDD should impact their implementation of social communication interventions (Chen & Turner, 2003; Hsueh, 2003; Kang, 2001; Wang, 2004; Wu, 2003).

Meanwhile, not only the intervention strategies but also the disability level of the children and their teachers' responses will influence the occurrences of children's communication actions (Lee, 2001; Wu, 2003). Consequently, what has the greatest impact on the acquisition and presentation of children's social communication skills is the interactions between teachers and children with developmental disabilities including SMDD. To study teacher-student interactions, it is fitting to employ a sociocultural theory perspective because it postulates that learning occurs through the social interaction with others (Wertsch, 1991).

Sociocultural Theory and Studies of Teacher-Student Interactions

Sociocultural theory originally draws on the work of Russian psychologist Lev Vygotsky (Valenzuela, Connery, & Musanti, 2000), which impacts significantly contemporary viewpoints especially in the areas of psychology and education. According to Tharp (1997)

The sociocultural approach is among the most significant temporary themes in a wide range of intellectual disciplines worldwide, including philosophy, literacy and aesthetic criticism, theology, and the social sciences. Along with cognitive science, it is a contender for the dominant paradigm in contemporary psychology and education. Because sociocultural theory is so basic to the study of developmental and educational issues, its consequences for teaching, schooling, and public policy are profound. (p.11)

Vygotsky's Sociocultural Theory

Wertsch (1991) reviewed Vygotsky's work and highlighted three basic tenets of sociocultural theory (John-Steiner & Mahn, 1996; Moll, 1990; Wertsch, 1990):

- (1) Human thought is best understood from a complex, chronological perspective;
 - (2) an individual's development of advanced thought processes is rooted in his or her own personal sociocultural history and experience; and
 - (3) the psychological behavior of human beings is mediated or facilitated by sign, symbols, and languages at individual and collective levels of experience.
- (Valenzuela et al., 2000, p.112)

Educational theorists and researchers have employed these tenets to explain what Wertsch and Sohmer (1995) declaimed, the relationships between human mental functioning and their contexts (e.g., include cultural, institutional, and historical situations), (Valenzuela et al., 2000; Wertsch & Sohmer, 1995). Vygotsky's stance on teaching and learning is more than another behavioral teaching approach; it represents interactive, responsive teaching and learning. Brought together, the individual student's characteristics, the social context, and the motivated components of learning exhibit the complexity of learning and instruction (Kraker, 2000). He revealed the important role of social interaction in cultural development in his studies of children's appropriation of socially elaborated symbol systems in the acquisition and internalization of language (Mahn, 1999).

From the primary social sources for the development of linguistic and cognitive processes....There is both receptivity to others and self-initiated exploration in the

behavioral repertoire of very young children. The tension between these two highly adaptive tendencies contributes to the processes of individuation and enculturation in the course of children's semiotic development. (John-Steiner & Tatter, 1983, p.86)

Through interaction with an adult (e.g., mother, caregiver, teacher), a child learns the self-regulatory aspects of speech (Mahn, 1999). Besides the learning from the social interaction, Vygotsky also revealed the concept of the zone of proximal development (ZPD). Vygotsky (1978) used this concept to distinguish two levels of development: the actual level of development achieved by individual's independent problem solving, and the potential level of development reached with the guidance or collaboration of adults, an expert, or a more capable peer. According to Vygotsky (1987), "there is a pre-intellectual stage in the formation of speech and a pre-speech stage in the development of thought" (p.243). Thus, any of a child's learning in school has a previous history (Mahn, 1999; Vygotsky, 1987). For this reason, understanding these aspects of learning and development and the concept of the ZPD is an important prerequisite for successful work with children who create unique paths of development based on their exceptionalities and who will have qualitatively distinct zones of proximal development (Mahn, 1999, p.347).

Studies of Teacher-Student Interactions

Sociocultural theory has been utilized in empirical studies for investigating social interaction between teachers and students in a wide range of topics including language and literacy learning (e.g., reading, writing, and speech) (e.g., reviewed by Fisher, 2005; Littleton et al., 2005; Sablo-Sutton, 2004), second language acquisition (Anton, 1999; Darhower, 2000; Gibbons, 2003; Mondada & Doehler, 2004), multicultural education

(Kanu, 2002; Monzo & Rueda, 2001), math learning (Forman, McCormick, & Donato, 1997; Goos, 2004), teacher-student relationship and teaching strategy (Rietz, 2002; Waterman, 2005), as well as special education (Boardman, 2005; Faux, 2005; Kraker, 2000; Van der Aalsvoort, Van Tol, & Karemaker, 2004).

Fisher (2005) reviewed the research perspectives of teacher-child interaction in the teaching of reading over 25 years. The review considered the significance of interaction between teacher and students in learning to read. The author indicated that the work from the last fifteen to twenty years of reading studies has been based on Vygotskian perspectives and has highlighted the importance of the role of the adult (e.g., teacher) but less attention has been paid to Vygotsky's view of communication as a powerful cultural tool. In addition, Fisher mentioned that some researchers have considered the wider implications of classroom interaction and how this reflects the classroom as a site of power relationships.

It is believed that communicative activities promote linguistic production, thus providing language practice and opportunities for negotiation of meaning and form during communication interactions, which has been declared to be beneficial for language learning (Anton, 1999). Anton (1999) investigated learner-centered and teacher-centered discourse in interactive exchanges between teachers and learners in the second language (L2) classroom. The result showed that learner-centered discourse provided more opportunities for negotiation (of form, content, and classroom rules of behavior), which created an environment beneficial to L2 learning than teacher-centered discourse did. Placing the analysis within sociocultural theory, Anton's study showed that when students are engaged in negotiation, language is used to serve the functions of scaffolding

(Wood, Bruner, & Ross, 1976) and to provide effective assistance as students are making progress in the ZPD (Vygotsky, 1978). The author also indicated that sociocultural theory has proven a helpful framework to explore language interaction in the classroom because at the core of the theory lies the idea that cognitive development has its origin in social interaction. The results provide language teachers with a better understanding of the communication actions that effectively involve students in classroom activities and successfully transfer responsibility from the teacher to the students.

Sociocultural theory has been utilized to foster individual's academic learning such as language, math, or science, but also to examine students' perceptions of motivation. For example, Rietz (2002) examined the sociocultural orientation of motivation by student focus groups and teacher interviews to obtain their perspectives on student motivation within a classroom setting. The study built a model to focus on the specific context and the interactions taking place within that specific context over time, which enables teachers to review their classroom, their role, and the impact within the classroom setting through students' viewpoints.

Waterman (2005) pointed out some important elements regarding teacher-student interactions and joint achievement: (a) teachers seeing the classroom interaction as a process of joint achievement of final goals; and (b) students recognizing what the teacher's goals are and becoming better able to work to reach the goals. Thus the study supports the belief that there is a need to examine classroom interaction in order to understand how the students and teachers are jointly organizing the student work, and to understand what supports students and teachers jointly achieving their final goals that are closely related to the teacher's pedagogical aims.

Studies of teacher-student interactions applied to special education are likely to focus on children with learning disabilities or at-risk of learning difficulties (Boardman, 2005; Kraker, 2000; Van der Aalsvoort et al., 2004). Boardman (2005) investigated interactions between teachers and students with learning disabilities in general education classrooms. This study provided a model for understanding teachers' negotiation of the integration of LD students into the learning environment, as was developed and supported by the following themes: teacher beliefs, classroom practice, student response, and teacher's perception of student success. A valuable analysis of teacher-student interactions in this study was the discussion of both student outcomes and teacher motivation to work with students with learning disabilities.

Kraker (2000) examined teacher-student discourse from a sociocultural perspective in order to discover the nature of efficient instruction for 9-11 yr-old students with learning disabilities. According to Kraker (2000), the teacher's knowledge of the students' academic needs motivated his/her instructional goals--what he/she taught. Beliefs regarding how language and classroom contextual factors contribute to development motivated a teacher's language of instruction-- how he/she taught. The analysis revealed that teacher-student interaction can best be characterized as a close combined interaction of verbal and nonverbal behaviors. These behaviors included corrections, task organization, expansion of ideas, and monitoring of the students' performance on the part of the teacher, accompanied by self-corrections, questions, and focused attention on the part of the students. In fact, students viewed their errors and the teacher's corrections as being integral to their learning. Consequently, students'

performance was gradually shaped by reflecting on the monitoring, correction, and expansion of ideas that were integrated into teacher-student discourse (Kraker, 2000).

Van der Aalsvoort, et al. (2004) examined whether information on play behavior of young children at-risk of learning difficulties could act as a diagnostic means of exploring emerging learning difficulties. The findings of this study concluded that social play might appear as a situated performance. Thus, information on the social development of young children at-risk of learning difficulties should be related to the school as a context in order to facilitate diagnostic decision-making when placement of these children in special education is considered. From the above studies, it is noted that the center of attention of sociocultural research is on understanding how cognitive, social, cultural, emotional, and communicative factors impact instruction (Forman & McCormick, 1995).

Discourse Analysis in a Sociocultural Perspective

Many social interactions studies employ discourse analysis, which is one of the principal methodologies of sociocultural research in education. According to Forman and McCormick (1995), the combination of discourse analysis and sociocultural theory could be a powerful way of understanding teaching and learning because sociocultural theory proposes that instruction entails cognitive, social, cultural, affective, and communicative aspects, and discourse analysis allows one to examine those aspects as they occur in real time and in naturalistic settings. Forman and McCormick (1995) reviewed how sociocultural theory conceptualizes teaching and learning, some fundamental constructs of both the theory and the discourse analytic method, and the basic guidelines for discourse analysis. The authors discussed the applications of sociocultural theory and

discourse analysis to remedial and special education by focusing on three areas of research: the social construction of disability, contingent instruction between adults and learners, and miscommunication between adults and working class or minority students. The author concluded that the use of discourse analysis by sociocultural investigators had produced some provocative findings for remedial and special education (Forman & McCormick, 1995).

In sum, the important element of studies of teacher-student social communication is concerned with both the discourse and its context. The context of classrooms' talk should be taken into consideration. Since this study was carried out in the classrooms in Taiwan, the following section discussed Taiwanese cultural values and the current state of special education in Taiwan.

Taiwanese Cultural Values and Special Education in Taiwan

Taiwanese Cultural Values

The philosophy of Confucius has probably had a significant influence on how the concept of cultural values are perceived in Taiwan (Cheng & Page, 1995; Huntsinger, Jose, Liaw, & Ching, 1997; Rosenthal & Feldman, 1991; Stevenson, Chen, & Lee, 1993; Wu, 1996). Confucian principles accentuate the emphasis that Chinese/Taiwanese parents place upon their children's acquisition of academic skills, as well as highlight the deference to the group and parental authority (e.g., Huntsinger et al., 1997; Rosenthal & Feldman, 1991; Stevenson et al., 1993; Wu, 1996). The Chinese culture is more likely to embody the collectivist (i.e., relational) perspective (Jose, Huntsinger, Huntsinger, & Liaw, 2000). Chinese/Taiwanese parents tend to encourage their children to view

themselves as part of the integrated whole of their family, community, and society, and not to emphasize their differences from others (Markus & Kitayama, 1991).

Furthermore, Taiwanese parents report that they exert greater control over their children's behavior (Lin & Fu, 1990). Chao (1994) argued that although Taiwanese parents may exert more control over their children, they do so with the goal of training their children to achieve academically and to behave according to social norms.

Researchers claim that kindergarten curriculum in Taiwan reflects both traditional Chinese values and the cultural changes that have taken place in modern times due to multiculturalism (Lin & Tsai, 1996; McMullen et al., 2005). Lin and Tsai (1996) point out that kindergarten curriculum in current Taiwan emphasizes cognitive development and is heavily influenced by technology and an emphasis on moral education. In addition to the influence of Confucianism, Taiwanese parents place a serious emphasis on academic advancement and as a result, many early childhood care and education programs have taken on a heavy academic focus (Hsieh, 2004; Lin & Tsai, 1996; Pan, 1992). All teachers in the early childhood education or early childhood special education and care programs in Taiwan, nursery schools (day care centers) and kindergartens, have received specialized early childhood teacher education based on child-centered learning principles largely congruent with developmentally appropriate practices (DAP) (McMullen et al., 2005). However, for nearly 30 years, their professional preparation has also infused traditional Chinese societal values (Hsieh, 2004).

Special Education in Taiwan

In the past two decades, the special education service in Taiwan has been drawing public attention and making a great effort to improve their service for children and youth

with disabilities. For example, in 1997, the Taiwanese government enacted the new Special Education Laws to extend the special education service for children with disabilities starting from aged 3 with zero rejection, and schools are required to invite parents to design an individual Educational Plan (IEP) for each student with special needs (Ministry of Education of the Republic of China, 1997a). In addition, a great number of resource rooms were established in elementary schools and secondary schools to provide special education service for students with disabilities who were placed in general classrooms. At present, Taiwan's special education programs are provided in the form of resource rooms, self-contained special education classes, mobile consulting classes, general classes with special education service (inclusive classes), home schooling, special education schools, and institutions or centers for school-aged children with disabilities. Recently, government statistics showed that the percentage of special needs children getting special education service in the school system from preschool to high school gradually increased. The special education classes have increased from 3,393 in 1999 to 4,187 in 2005 (rate of increase 23.4%) and served from 59,419 children with disabilities in 1999 to 78,264 in 2005 (rate of increase 31.7 %) (Ministry of Education of the Republic of China, 1999; 2005b). In addition, the placement rate for children with disabilities has increased from 86% in 1999 to 98% in 2003 (Lin, 2000; Office of Higher Education of Ministry of Education of the Republic of China, 2005). For early childhood education, almost two-thirds of the preschools and kindergartens in Taiwan are run by private operators. There are also 3.4 times as many preschool students in these private institutions as there are in the public ones. Ninety percent of private kindergartens are

independently operated, whereas most public preschools/kindergartens are associated with public elementary schools (Study Abroad Electronic Center, 2003).

Taiwan has mandated early childhood special education since 1984. Until 1990, there has been little research concerning the nature of early childhood special education services. Available research showed that because of a lack of information and resources, most young children with severe disabilities remained home and did not receive educational services (The Red Cross Society of China, R.O.C., 1990). Even though there are trends to integrate children with disabilities in the general education classrooms, most children with severe/multiple developmental disabilities continue to be placed in institutions, centers, or special schools (Kang, Lovett, & Haring, 2002). This situation may be due to the few special education preschools/kindergartens for 3- to 6-year-old children with disabilities; most special education service is provided by private institutions, and only a few of them are run with government support (Wang, 1993). To improve early childhood special education, the Taiwanese government demanded that all relevant local government departments should develop regulations for active implementation of special services for preschool/kindergarten children (Ministry of Education of the Republic of China, 1997b). It is encouraging to see that early childhood special education is getting more attention from the government. However, to get the law into practice and verify that it will bring the greatest benefits to young children with disabilities, there remains the need for further promotion through continued research. However, to date there has been little research about the social communication of young children with developmental disabilities including SMDD in Taiwan. The lack of

understanding regarding the nature of social communication interactions between teachers and children with developmental disabilities including SMDD is still hidden.

Summary

Young children with developmental disabilities including SMDD demonstrate extremely limited communication skills and tend to communicate to others through nonverbal behaviors or prelinguistic communication. In order not to marginalize these children in schools and communities, as well as to facilitate their appropriate social communication behaviors, many communication intervention studies have implemented behavioral interventions such as milieu language teaching, functional communication training, and assistive techniques which have helped young children with developmental disabilities including SMDD in the following aspects: (a) improving direct access to environmental stimulation, (b) enhancing making requests/choices of environmental stimulation, (c) increasing spontaneous, initiated and responded communication, (d) increasing initiative communication and decreasing challenging behaviors, as well as (e) improving the acquisition of pictures, voice, and vocabulary. However, even when effective teaching approaches for students with developmental disabilities including SMDD are validated, these approaches are often not employed in school settings (Wang, 2004). It is likely that teachers may believe their teaching reflects an application of a new theoretical stance when, in fact, previous experience continues to inspire their teaching (Kraker, 2000). Hence, to discuss the efficacy of social communication interventions, we should not only focus on the interaction strategies/techniques themselves, but also consider the factors of both children and teachers. Research has found that children's condition of disabilities and teachers' responses have great impact on the occurrences of

children's communication actions (Lee, 2001; Wu, 2003). Consequently, the social communication interactions between teachers and young children with developmental disabilities including SMDD will be the most important in the acquisition and demonstration of children's social communication skills.

I believe that "the success of the process of teaching and learning depends on contributions by both teachers and learners" (Mercer, 1995, p.44). To study teacher-student communication interaction, sociocultural theory will be the most proper framework because it emphasizes the social nature of learning and the cultural-historical contexts in which interactions take place (Monzo & Rueda, 2001). Discourse analysis is a tool grounded in sociocultural theory for understanding teaching and learning (Forman, Minick, & Stone, 1993; Moll, 1990; Newman, Griffin, & Cole, 1989; Wertsch, 1991). Hence, the utilization of sociocultural theory as research framework and discourse analysis as the analytic method were the guiding approaches in this study to be carried out in Kaohsiung County, Taiwan. Whereas current literature review had shown that no study to date has explored social communication interactions for young children with developmental disabilities including SMDD and their teachers in Taiwan, this study aimed to fill such an undesirable gap in research.

CHAPTER THREE: METHODOLOGY

The study of the dynamics of teacher-student interactions provided more in-depth understanding of teachers' perspectives and needs, reveals how teachers interpreted and responded to the social communication behaviors of young children with developmental disabilities including severe/multiple developmental disabilities (SMDD), and provided suggestions for suitable teacher training and the selection of appropriate and effective communication interventions. Research on social interactions between teachers and students with disabilities is rare. To date, little study had investigated the social communication interactions between teachers and young children with developmental disabilities including SMDD. Thus, there was a lack of understanding of the relationship between teacher-student social interactions and teacher discourse during communication interventions for young children with developmental disabilities including SMDD in classroom settings. This study aimed to describe the real phenomena of social interactions between young children with developmental disabilities including SMDD and their teachers through in-depth interviews of the teachers and analysis of classroom discourse during communication intervention activities.

The broad research question for this study was: "What was the nature of communication between teachers and students during communication intervention activities, and how did the interactions influence the responses of both teachers and students?" The guiding questions were: (a) How did the teachers interact with young children with developmental disabilities including SMDD? (b) Why did the teachers choose certain types of responses and strategies/techniques during interventions? (c)

What were the outcomes of the communication interventions for young children with developmental disabilities including SMDD?

Research Design

A case study utilizing qualitative research design with classroom discourse analysis was conducted to investigate the teacher-student interactions. Qualitative research methods are “ways of finding out what people do, know, and think” (Patton, 2002, p.145) and attempt to “make sense of or to interpret phenomena in terms of meanings people bring to them” (Denzin & Lincoln, 2000, p.3). According to Mercer (1995), teachers “assess children’s learning through talking to children and listening to what they say” (p.2) or observe what they respond through body movements. Hence, teachers carry out their intervention step by step by talking, conversation, or interactions with the children. Likewise, children get to learn new knowledge by interacting with teachers’ talk. Thus, people use language not just as a means to put ideas together and communicate them, but also as a means to think and to learn together (Mercer, 1995). Erickson (1992) emphasized that close investigation of the conduct of interaction could be the best way to show evidence of learning over time. It is true that one can clearly realize children’s progress by monitoring their performance in natural settings with a long period of observation. In addition, by closely examining classroom discourse, one can identify how teachers carry out specific lesson structures, what their teaching styles are, and when teachers deliver the most appropriate discourse (Cazden, 2001). For this reason, the qualitative approach with classroom discourse analysis is suitable for exploring a deeper understanding of teacher-student interactions in classroom settings.

The study was conducted in a public elementary school in Kaohsiung County, Taiwan, and incorporated teacher interviews and classroom observations for one semester.

Assumptions of Naturalistic Inquiry

I selected naturalistic inquiry as the research method for data collection because “meanings are constructed by human beings as they engage with the world they are interpreting” (Crotty, 1998, p.43). Naturalistic inquiry assumes a constructivist paradigm, which postulates the construction of multiple realities (Erlandson, Harris, Skipper, & Allen, 1993). I intended to interact with the participants so that findings would emerge from the processes of investigation. The following five assumptions of naturalistic inquiry guided this study:

1. Naturalistic paradigm assumed there are multiple realities (Erlandson et al., 1993). Erlandson et al. (1993) claimed that multiple realities enhance mutual meanings. This study assumed that teacher-student social communication interactions were multiple and constructed because the same interactions could have multiple realities from the teachers’ view, the students’ view and my view as a researcher. Hence, through interviews and observations, I aimed to understand all these perspectives from the views of teachers and young children with developmental disabilities including SMDD and not only from that of the researcher’s (i.e., my own view). Thus, the perspectives of teachers were identified by the viewpoints of the teacher participants.
2. There is a mutual interactive and indivisible relationship between researcher and the participants within the research process (Lincoln & Guba, 1985; Erlandson et al., 1993). In addition, in qualitative research the researcher was

an instrument in primary data-gathering. The data from teacher interviews were obtained through interactions between the teachers and me as a researcher. I attempted to build a good relationship with the teacher participants in which they were willing to address their own stories, and I was a listener to listen to their stories to explore the connection between “how” and “why” in the teacher participants’ interactions with children with developmental disabilities including SMDD.

3. Naturalistic inquiry is highly dependent upon its research context, which is not contrived, manipulated, or artificially fashioned by the researcher (Schwandt, 2001). To investigate the social communication of teacher-student interactions in a non-manipulative and non-controlling manner, I played the role of an outside observer and utilized open-ended teacher interviews.
4. Conditional generalization occurs only in a similar context (Lincoln & Guba, 1985; Erlandson et al., 1993). Since the naturalistic paradigm emphasizes multiple realities and research in natural settings, it emphasizes that no two social settings are sufficiently similar to fully generalize from one to another. Therefore, the results of this study did not represent all situations of social communication interactions between teachers and children with developmental disabilities including SMDD. However, the readers may determine the transferability of these findings by following the detailed descriptions of relevant contextual information, such as the characteristics of teacher and student participants, the classrooms, and the communities of schools.

5. Naturalistic inquiry assumes that one cannot be neutral from his or her personal subjectivity (Earlanson et al., 1993). Naturalistic inquiry involves a researcher as a research instrument because he/she is the primary data-collection tool and because of the understanding that all instruments and informants interact. Therefore, the researcher had to give a statement of person as study instrument before access to data collection (See Appendix A: Researcher as Instrument Statement).

Context and Participants

Kaohsiung County, Taiwan

This study conducted in Kaohsiung County, Taiwan. Kaohsiung County was a mountainous county in South Taiwan with about one million people. The county was in a transitional stage going from conservative country thinking to modern city thoughts. It was influenced by the nearby city, but was still rural. So it encompassed a mixture of beliefs and thoughts. In addition, even though Mandarin is the major language in Taiwan, people in Kaohsiung County usually use more than one language (e.g., Mandarin, Taiwanese, Hakka, or some other native Taiwanese languages) in their daily social communication. Because of the improvement of English education by the government, sometimes the language used here is also mixed with English. Recently, international marriages between Taiwanese and people from South-East Asia have increased considerably in Kaohsiung County. Thus, the language used for daily social communication is getting complicated. The official language used in schools is Mandarin, while most people in Taiwan speak Taiwanese as their mother tongue, which is the second major language in Taiwan and is also widely used in schools after the

change of political party in the government in 2000. I am familiar with both Mandarin and Taiwanese. I chose this county not only because of its mixture of beliefs and thoughts, but also its mixed culture with multiple languages, especially two main languages—Mandarin and Taiwanese, which was different from a place using a single language.

Based on the new special education law in 1997, every child with disabilities aged 3 or above in Taiwan can receive special education service with zero rejection. According to the special needs of the child, he/she can be placed in a special school, a special class in a general school, a resource room or even a general class in a public or private school. There were three early childhood intervention (ECI) institutions, which were nonprofit organizations ruled by the Bureau of Social Affairs of Kaohsiung County, serving children with disabilities aged 0 to 5. At present, most young children with disabilities enrolled in the ECI institutions or general private preschools/kindergartens based on parents' considerations and the suggestions of placement meetings. In the public educational system of Kaohsiung County, there were three self-contained preschool/kindergarten special education classes, with two serving children with developmental disabilities including SMDD, and one serving young children with hearing impairment. Of these two classes serving young children with developmental disabilities, one was part of an elementary school and the other was located within a special school that served children with disabilities from preschool to high school.

Selection of Participants

When selecting the participants, I first considered the goal of this study, which was to explore the social communication interactions between teachers and young

children with development disabilities including SMDD during classroom interventions. Second, because many studies have shown that early intervention benefits young children with disabilities (Bailey et al., 2005; Schepis et al., 1998; Sullivan et al., 1995), it is better to examine teacher-student interactions as early as possible. Third, according to Taiwan's new special education law in 1997, young children with disabilities should attend school starting at the age of three. Fourth, the education programs for young children with disabilities in Kaohsiung County were early childhood intervention (ECI) institutions, general private preschools/kindergartens, and special education classes in public schools. The ECI institutions were nonprofit private organizations that belong to the social welfare system, which was different from the education system. The general private preschools/kindergartens did not provide special education service for young children with developmental disabilities including SMDD in Kaohsiung County. Hence, the target school was limited to a public school. Based on the four considerations, the study focused on young children with developmental disabilities including SMDD aged from 3 to 6 enrolled in preschool/kindergarten in a public school. In addition, these children should have communication intervention needs and involve intervention goals of communication (e.g., social communication skills) in their individualized education programs (IEP).

Because the population of developmental disabilities especially SMDD had a relatively low representation in general and in special education in the public schools in Taiwan, the features of the district, school, classroom and level of teacher background were taken into consideration during the selection procedures. The student participants were chosen based on the following criteria: (a) the children should be identified as having developmental disabilities and aged from 3 to 6, (b) the children should be

enrolled in preschool/kindergarten class or special classes, and (c) the children should have communication or social skills intervention goals for their IEP. The criteria for teacher participants were as follows: (a) they should be the student participants' teachers, and (b) they should conduct communication interventions for the student participants.

Procedures of Recruitment

The procedures for the recruitment of the target school and participants were as follows. I began searching for potential participants by reviewing the enrollment data of special education in Kaohsiung County. A public school named Freedom Elementary School had a preschool/kindergarten class, which served young children with developmental disabilities including SMDD, was my priority target school.

After finding out the target school, I then contacted with one of the teachers of this school Miss Amy who taught in the preschool/kindergarten special education class and she was willing to involve in this study. I also sent the application form to the Bureau of Education in Kaohsiung County to apply for the approval to conduct research in this school. According to the Bureau of Education in Kaohsiung County, I only needed to receive "principal agreement to participate form" from the principle of the target school. I, then, contacted with the principal of Freedom Elementary School and I got his signed "principal agreement to participate form", which was one of the materials used to apply for the Institutional Review Board (IRB) in the University of Texas at Austin.

As soon as the IRB consent was obtained, I contacted with the teachers of the preschool/kindergarten special education class in Freedom Elementary School to discuss the possibilities of conducting research in their classroom, detailing the potential risks and benefits for them and their students, if given consent by the teachers and the students'

parents. The consent forms were provided in both English and Chinese to facilitate the understanding of the participants (see Appendix B: teacher consent form in English; Appendix C: teacher consent form in Chinese; Appendix D: parental consent form in English; and Appendix E: parental consent form in Chinese).

The Preschool Special Education Class in Freedom Elementary School

The study was carried out in the preschool/kindergarten special education class in Freedom Elementary School. The class was located on the west corner of the front building in the school. Next door to this classroom was a general kindergarten class and these two classes shared a playground just behind their classrooms. This general class served 20 typically developmental children in spring 2007. There were two main teachers and one part time volunteer teacher in this preschool/kindergarten special education class. In spring 2007, six children with developmental disabilities including SMDD were enrolled in this special education class. One child, who attended the general kindergarten class, was temporarily attending the activities in this special class because his parents and the teachers in the general kindergarten thought he needed special education assistance before he went back to his own class. This child went back to the general class in the middle of the semester. Another young child was too fragile to come to school every day. So he was frequently absent from the class.

Of the two main teachers, one taught language, and the other taught math. The part time volunteer teacher came to this class every Wednesday and she taught children art. Even though they taught different academic courses, they all taught these children communication skills using different materials during small group interventions. During small group interventions, the students were assigned into two groups (group A and

group B) based on their disabilities level—group A for young children with profound disabilities (non-verbal and non-ambulatory) and group B for children whose function was higher than group A. The communication interventions were carried out by these two teachers during two daily small group activities (each lasting 30 minutes) except Thursdays, which were inclusive activities times. When a teacher taught group A, the other teacher would teach group B, and they switched to teach the second small group activity of the day to the groups. On Wednesdays, the volunteer teacher came to this class and she pulled out students from the small groups one by one to have individual instruction of drawing pictures. Each student had this art class with the volunteer teacher every other Wednesday since she gave them one to one instruction each time for 20-30 minutes. Moreover, some of the children's parents or caregivers came to this class every day to help with some errands. In addition, some other therapists such as speech therapists, occupational therapists, and physical therapists came to the school to work with these children 1-2 times a month.

This study focused on teacher-student interactions. This class gave me a great opportunity to observe the dynamics of dyadic interactions between these children and various adults (including teachers, therapists, caregivers, and parents), as well as to examine if/how children respond differently to different adults, and vice versa. I decided to recruit the two main teachers and the volunteer teacher as my teacher participants because they all carried out communication intervention for the students. In addition, based on my criteria of student participants, I recruited four of the children in the class to participate in this study. Accordingly, there were 12 teacher-student dyads (three teachers to four children each).

Data Generation

Data for this study was collected from various sources, including participant observations, interviews with teachers, my field notes consisting of my interviews and observations and reviews of students' documents. Since I had multiple sources of data, triangulation is ensured by using these numerous sources of data (Lincoln & Cuba, 1985). Data triangulation in this study was described in detail in the section on building trustworthiness. Following permission from the school's principal to conduct my study, I received an IRB approval from the University of Texas at Austin in the middle of February. The field data collection began in late February of 2007 and lasted one semester, which was the end of June in the same year. I started this study from initial interviews with the two main teachers and informal observations until April 10th when I interviewed Miss Cathy, the part time volunteer teacher, then, I began my formal classroom participant observations with videotaping during small group times.

Participant Observations/Classroom Observations

Participant observation requires the researcher to be involved in the daily routines of a social setting, to develop ongoing relations with the people in it, and to observe what is going on there, which allows adequate observation and recording of data (Emerson, Fretz, & Shaw, 1995; Fetterman, 1998). I carried out my participant observation in the special education classroom, so I called it classroom observation. Because the study aimed to track the patterns of teacher-student interactions, the duration and frequency of participant observations (classroom observations) were taken into consideration. I went to this class two days a week and stayed there for the entire morning activities from 8:00am to 12:30pm during the whole spring semester in 2007 from February to June

(approximately four months). The first two months, I spent time building relationships with the people in the class including teachers, students and parents and a babysitter. I set up my video camera each time while I was in the class to let the people get used to having this camera even though I did not tape in the beginning. I started my formal observation in April 2007. I took field notes of what I saw and heard in the classroom and playground, but only video taped their small group activities for 20-40 minutes each since they were my study focus. I did not observe their inclusive activities every Thursday because it was not my study focus. I went to the class on Tuesdays and Fridays in the beginning of the semester, but after Miss Cathy became involved in my study, I switched the day from Tuesday to Wednesday to go to this class because Miss Cathy came every Wednesday. Therefore, on Wednesdays, I observed the three teachers' instructions with the children and on Friday I only observed Miss Amy's and Miss Betty's groups. I took turns to observe these three teachers with videotaping as I was the only observer. The length of my observation each time was determined by the length of the lesson period. I mainly focused on the ways the teachers implemented teaching strategies/techniques to teach students' social communication skills, students' responses, and the mutual influence between teachers' actions (including verbal, nonverbal and silence) and the students' responses during participant observations. In addition, I observed whether children responded differently to different adults and vice versa as well. I frequently had informal conversations with the teachers during breaks to check the teachers' intentions of teaching and my own observations regarding both teachers and children's performance.

Teacher Interviews

Teacher interviews in this study were aimed to understand teachers' perspectives and feelings in working with children with developmental disabilities including SMDD, as well as why teachers chose their responses and strategies/techniques during interventions, such as teachers' decision making when selecting and implementing communication interventions (including teaching materials and teaching techniques/strategies). In addition, their views of the performances of the student participants were involved in the interviews. Two formal interviews were conducted over the semester: one at the beginning of semester before classroom observations, and the other at the end of semester. Based on the teachers' options, I audio-taped these two formal interviews.

Initial interview. I conducted the initial interview with Miss Amy and Miss Betty at the beginning of the semester before the classroom observations. Before I formally observed Miss Cathy's teaching, I had the initial interview with Miss Cathy. During initial interviews, I primarily intended to understand the background information of the teachers and the goals of teaching the class and their individual goal for each student, as well as their decision-making regarding designing students' lesson plans and class activities, selecting teaching materials, and the responses to each student. I asked some open-ended questions including: (a) Would you tell me about your educational background, qualifications, training, and teaching experience? (b) Would you describe your goals for your classroom and your students with developmental disabilities including SMDD (i.e., the target students in the study)? (c) What factors did you consider in designing the lesson plans of social communication intervention for your students? and (d) How did you work with parents?

Second interview. It was near the end of the semester when I had my second formal interview with the teachers. After having classroom observation for almost the entire semester, in the second interview I was particularly interested in their feelings regarding working with these children this semester and how they decided to respond to each individual child. I asked some questions that drew from my observations, as well as teachers' successes, challenges, perspectives and feelings in working with children with developmental disabilities including SMDD.

Field Notes

Field notes are used to “describe events which were experienced directly by watching and listening” and “are best recorded during or shortly after the observation period” (Corsaro, 1985, p. 295). The field notes that I took throughout the observations and after interviews served as another source of data to be utilized in data analysis. Information in the field notes included the date, time, activities, video- and audiotape number, and the major events that occurred during class activities. In addition, the field notes contained theoretical, methodological, and personal notes (adapted from Corsaro, 1985). Theoretical notes (TN) were used to represent the teacher's teaching strategies or techniques. Methodological notes (MN) document evaluation of the equipment, method and instruction used in data collection. Personal notes (PN) were used to describe my own personal feelings, ideas, questions and interpretations of the observations.

Documents

Students' documents such as the Individual Education Plan (IEP) and cumulative records and lesson plans were reviewed to get the information regarding the children's academic and social/behavioral characteristics. Based on this information, I was familiar

with the children's backgrounds and their communication characteristics. In addition, these documents served as an instruction index of the teachers' teaching.

Data Analysis

To gain an in-depth understanding of teacher-student interactions during social communication interventions, data analysis were conducted in a variety of forms. Transcripts of classroom observations and teacher interviews were the primary sources, and field notes and students' documents were used to expand, confirm, or refute findings. Discourse analysis (Cazden, 2001; Mercer, 1995; 2000), constant-comparative analysis (Merriam, 1998, Mertens, 2005; Strauss & Corbin, 1998), and cross-case analysis (Mertens, 2005) were utilized for data analysis. The procedures for data analysis included three phases. The first phase of data analysis was transcription and coding phase, which involved: (a) transcribing and translating the data, and (b) conceptualizing the data. The second phase of data analysis was discovering categories which involved analysis of teacher interviews and classroom observations, and the third phase of data analysis was merging analysis of multiple data sources which involved emerging themes, as well as developing and testing working hypotheses.

Transcribing and Translating the Data

The audio/videotaped data including interviews and classroom observation data were translated word-by-word. For classroom observation data, transcriptions included not only verbal discourses but also nonverbal behavior descriptions for the teachers and the children, as well as contextual information such as children's reactions to the stimuli from other teachers/adults or outside noise. The transcription conventions involve symbols, behavior/speech, and description. The detailed explanation of transcription

conventions was listed in table 1 (adopt from Gutierrez, Rymes, and Larson, 1995; Maloch, 2002; Schiffrin, 1994; Tannen, 1989), and theoretical, methodological, and personal notes were added after transcriptions.

Following interviews and classroom observations, I expanded the field notes from my memory of the key words jotted down. Field notes and student documents supplemented or contrasted what was expressed during interviews and classroom observations. Five graduate students, who majored in special education or educational psychology, and I transcribed each of the interviews and all videotapes of classroom observations except for the first two days of formal classroom observations. Because the teachers and students became used to my observation and videotaping after two days of formal participant observations, the interruption of my observations were reduced and I got more accurate information during classroom observation after those initial days.

Since the study was conducted in Taiwan, the first level of audio/videotaped data transcription regarding verbal discourse were in Chinese including Mandarin and Taiwanese because the teachers and students also spoke Taiwanese during interventions. The unified formal written Taiwanese language is still in the early stages of establishment. Until May 2007, Taiwan Ministry of Education announced 300 *Taiwan Taiwanese Recommended Words* (Ministry of Education of the Republic of China, 2007a). In addition, Taiwan Ministry of Education proclaimed *The Selection Principle of Taiwan Taiwanese Words* (Ministry of Education of the Republic of China, 2007b). Based on the Taiwanese recommended words and their selection principle of Taiwanese words, I therefore translated these expressions into Taiwanese and presented them as **boldface italics with underline**. The translation among Taiwanese, Mandarin and English

were presented in Table 2: The translation synopsis of Taiwanese, Mandarin and English. Moreover, since the student participants were young children ages 3 to 6, a lot of baby talk, which was also called motherese, parentese or child-directed speech (CDS), was used by the teachers in talking to the children. Regarding baby talk, I only translated their meanings into English because it was not my focus of research in this study.

The nonverbal behavior descriptions for the teachers and the children, as well as contextual information were transcribed in English. In addition, the process of data analysis such as assigning codes and labeling emergent themes were in English. English was chosen as the language for nonverbal and contextual information and the process of data analysis were based on the three rationales. First, both my training in research methodology courses and my previous experiences with data analysis were in English. For instance, the procedures for data analysis and transcription conventions were drawn from my pilot study, which was conducted in the U. S. during the spring of 2006. Second, English had been the language in which I have built and expanded my knowledge base in special education and developmental disabilities during my pursuit of the doctoral degree in America. Third, the theoretical frameworks for this research were formulated in English. I also expected to reduce complexity by comparing and contrasting codes and themes from the transcriptions of teachers and students in English rather than across two different languages.

In the process of writing the research findings, I translated the selected excerpts from transcripts into English as needed. The major consideration for the translation task was to maintain the original meanings rather than word-by-word translation.

Furthermore, two of my friends, who are bilingual in Chinese (both Mandarin and Taiwanese) and English, reviewed the chosen quotes in order to validate my translations.

Conceptualizing the Data and Discovering Categories

I started to conceptualize the data through the process of abstracting data and labeling phenomena (Strauss & Corbin, 1998). The primary sources of data including transcripts of teacher interviews and classroom observations were coded with abstracting words or phrases that conveyed the same meaning as the chunked data and labeling the phenomena, which were the first-level concepts. For example, in looking for the phenomena of the perspective of their instructions, I found that in my interviews the three teachers all expressed that their instructions were “according to the children’s various differences”, “distinguished according to his disability label”, or that they had to “first understand his capability level, strengths and weaknesses”. I then named the phenomenon as “teaching based on individual differences”. While looking for recurring phenomena in the data of classroom observations, I observed that the teacher participants repeatedly wanted the children to repeat their words; I then named the phenomenon as “modeling”.

For example, the discourse of Miss Amy and David:

Miss Amy (→David): David算算看
有沒有四個 [tokens] , 1 2 3 4
哇:: ↑ 好多哦! 要不要和老師
換餅乾?

David: (*nods his head*)

Miss Amy (→David): 說, 我要換

。

David: 我要換。

Miss Amy (→David): David, count if
you get 4 [tokens]? 1, 2, 3, 4

Wa:: ↑ you have a lot! Do you
want to exchange these for
cookies with the teacher?

David: (*nods his head*)

Miss Amy (→David): Say, I want to
exchange.

David: I want to exchange.

(Transcription #V27, 5/25/07)

The first-level concepts were organized under the heading of each teacher participant, student participant, and teacher-student dyad. Later, the first-level concepts were grouped into the second-level concepts, of which functions were called the process of discovering categories by Strauss & Corbin (1998). I used two criteria of Strauss & Corbin (1998) for naming categories. They were (a) using broader or more comprehensive and abstract labels as headings for classes of items that share similar characteristics, and (b) using established analytic meanings from the literature. Discovering categories were conducted in two analyses, which were analysis of teacher interviews and analysis of classroom observations.

Analysis of Teacher Interviews. Constant-comparative analysis (Merriam, 1998, Mertens, 2005; Strauss & Corbin, 1998) was employed to analyze the teacher interview data. Constant-comparative analysis is a technique, which involves comparing one segment of data with another to determine similarities and differences. It “requires the researcher to seek verification for hypotheses that emerge throughout the study” (Mertens, 2005, p.320). Hence, the method also allowed me to group the data on a similar dimension and to become a category and finally to discover patterns/themes in the data.

Analysis of teacher interviews aimed to answer the guiding question—why do the teachers choose certain types of responses and strategies/techniques during interventions? It also provided teachers’ descriptions for the students while looking for the outcomes of their communication interventions. Therefore, the relationship between teachers’ backgrounds and their answers to sample questions were analyzed and their similarities and differences compared to group the data into many categories. In the process of discovering categories, I read, grouped and re-grouped the data to establish the categories. I first grouped the teacher interview data as two main parts based on my guiding questions, one was their background information and their perspective on

working with children with disabilities; another part was teacher participants' teaching and aspects of student participants' performances. The first part was presented as contextualization of the phenomena in chapter 4. The second part was used to analyze teachers' teaching patterns, instruction purposes, and their evaluation of the children's performances to examine the outcomes of the communication interventions for young children with developmental disabilities including SMDD. Under these two parts, I developed the categories and then many themes emerged as I continued comparing one segment of data with another by using constant-comparative analysis.

Analysis of Classroom Observations. Analysis of classroom observation data utilized discourse analysis which was guided by the approaches of Cazden (2001) and Mercer (1995; 2000). This involved techniques of microanalysis in discourse analysis (Erickson, 2004) and an examination of the "routine speech and actions of people in social groups" in order to discover the functional relevance of communication patterns (Florio-Ruane, 1987, p. 186). In classroom observations, I also focused on the serial of interactions between teachers and children, for which I employed antecedent-behavior-consequence analysis (ABC analysis). The analysis of classroom observations included two analyses which were analysis of individual teacher's instruction strategies/techniques, and analysis of individual child's social communication skills and responses.

Analysis of individual teacher's instruction strategies/techniques. Mercer's (1995; 2000) "language as a tool for thinking (2000, p. 18)" highlights the use of talk/discourse as teacher's instruction strategies/techniques. Moreover, Cazden's (2001) notion of "discourse as scaffold" assumes that "scaffold" is thinking about complex learning

environments that provide adult support for children learning by assisting children to make connections between new situations and familiar ones. By using Cazden's and Mercer's conception as a guide, in this study, the individual teacher's instruction strategies/techniques were analyzed in terms of her intentional and goal-directed ways of talking, which were grouped into six categories: (a) evoking children's attention, (b) extending children's motivation, (c) extracting children's social communication reactions/responses, (d) delivering information and teaching materials, (e) eliciting knowledge from children, and (f) responding to what children say and/or behave. Later, I group these categories into group scaffolds and individual scaffolds since I found the teachers gave extremely different teaching strategies/techniques while they carried out group scaffolds and individual scaffolds.

Analysis of individual child's social communication skills and responses. Because the student participants were young children with developmental disabilities including SMDD who were with limited language expression, the analysis of these children's social communication skills and responses were focused on describing their verbal and nonverbal behaviors and the interpretation by the adults including teachers and parents. Based on the findings of my literature review in this study (see chapter two: literature review) and the target outcomes of studies of social communication interventions, the analysis of the individual child's social communication skills and responses were grouped into the following categories: (a) exhibiting joint attention behaviors (e.g., pay attention or notice objects/events), (b) making requests/choices of environmental stimulation, (c) expressing rejection (i.e., dislike or does not want) of environmental stimulation, (d) expressing his/her moods (e.g., happy or sad), (e) responding to others'

questions or requests (e.g. choice making), and (f) exhibiting spontaneous or initiative language or behaviors.

Merging Analyses of Multiple Data Sources

The third phase of data analysis is merging analysis of multiple data sources. In this study, multiple data sources including observations, interviews, field notes, and students' documents were used for data analysis. The merging analyses utilized cross-case analysis and constant-comparative analysis to arrange the relationship between the categories that emerged in the second phase of data analysis to establish many themes. In my analysis, I took the data of one teacher participant with the four student participants' dyads to explore if the teacher gave different instructions to different children. I also took the data of one child with the three teachers to examine if the child reacted differently to different teachers. I took one part of case data and compared it with all the others that might be similar or different in order to develop conceptualizations of the possible relationships between various cases of the categories. I continued to compare each interaction until all have been compared with one another in order to find the common patterns and themes within the social communication interactions between teachers and students with developmental disabilities including SMDD. After cross-case analysis and constant-comparative analysis of the multiple data sources and establishment of the initial themes, discourse analysis was employed to refine themes and answer the guiding questions. The themes were also the findings of this study and were presented in chapter five: presentation of themes.

Emerging Themes

After the establishment of categories, category titles were examined for themes, based upon my background in the research topic and latent theory deduced from these data (Erlandson et al., 1993). For example, the theme such as “allowing the children to calm down before teaching academic lessons” emerged from categories such as “evoking children’s attention,” “extracting children’s social communication reactions/responses,” and “delivering information and teaching materials.” Some themes were shared among the twelve dyads of teacher-student interactions while others emerged uniquely from the descriptions of each participant.

These themes were further refined by discourse analysis guided by the approaches of Cazden (2001), Mercer (1995), Johnstone (2002), and Wood and Kroger (2000): (a) Johnstone’s notions of discourse as shaped by the world, participants, and purpose, (b) Cazden’s considerations of different treatments with heterogeneous groups, (c) Wood and Kroger’s emphasis on the inclusion of both verbal and nonverbal features, as well as silence, and (d) Mercer’s analysis of teacher scaffolding students’ learning and manufacture of shared knowledge. As such, the multiple data sources were analyzed to examine (a) How do teachers interact with young children with developmental disabilities including SMDD during interventions? (b) Why do the teachers choose certain types of responses and strategies/techniques during interventions? (c) What are the outcomes of the communication interventions for young children with developmental disabilities including SMDD? The findings related to the patterns of teachers’ instruction, the purposes of teachers’ instruction and the outcomes of the social communication interventions were shared via these themes.

Developing and Testing Working Hypotheses

Through the above approach, working hypotheses about the interactions between teachers and young children with developmental disabilities including SMDD were formed from collected data. For example, “The teachers’ special education practices in the classroom and their interactions with their students were influenced by their own special education training, their perspectives and their previous personal and professional experiences related to early childhood special education” was developed as a working hypothesis for this study. This working hypothesis was tested against the collected data by conducting member checks with the three involved teacher participants and by having discussions with peer debriefers (Erlandson et al., 1993).

Building Trustworthiness

Trustworthiness is considered to be established by “methods that can ensure one has carried out the [research] process correctly” (Guba & Lincoln, 1989, p. 245). Four criteria for judging the quality of this naturalistic inquiry study were credibility, transferability, dependability and confirmability.

Credibility

Credibility was considered as the most important criterion in trustworthiness by the naturalistic inquiry researchers (i.e., Lincoln & Guba, 1985). Credibility requires the researcher to provide assurances that his/her reconstruction and representation are the same as the participants’ views. To enhance the credibility of this study, many techniques were employed to build trustworthiness. The techniques include prolonged engagement, triangulation of data collection and data sources, member checking, peer debriefing, and data translation and bilingual translation checking. The following describe these techniques:

1. Prolonged engagement in the classroom provided the opportunity for me to obtain natural and non-artificial data. I conducted the data collection through participant observations (classroom observations) for one semester almost five months in the spring of 2007. Since neither the teachers nor the students have had the opportunity to be observed and videotaped in classrooms, they could have felt uncomfortable in the beginning. However, with prolonged observations for a whole semester, their feelings of discomfort were reduced.
2. Triangulation of data collection methods and data sources was implemented in this study. The data collection methods of this study such as observations, interviews, and video-/audio- tapes were utilized to collect data from multiple aspects. The multiple data sources were interview data, observation data, field notes, and students' documents. Different kinds of data provided meaningful yet different results because they were sensitive to different aspects of the investigation. I used these multiple data sources to examine the consistency or inconsistency and accuracy among the data.
3. Member checking allowed participants to verify and clarify the researcher's understanding, interpretations and conclusions (Erlandson et al., 1993). In this study, member checking was conducted by sending e-mails or in-person conversations with the teachers regarding the transcriptions of interviews. In addition, the informal conversations during debriefing sessions served as part of the member checking. Moreover, after the observation semester, I still went to this class many times to review the students' new documents and to have informal conversations with the teachers and I even attended their IEP

meeting. Besides in-person conversations, I contacted the teachers through e-mails or phone calls to check the precision of my analysis. Changes were made after their feedback. The member checking was only for the teachers, since I could not do this with the students because of their age and disabilities.

4. Peer debriefing is a technique to assist a researcher to evaluate “issue of roles, interpersonal dynamics, and the use of expertise” of a research project (Cooper, Brandon, & Lindberg, 1998, p.265). It usually involved another person or small group through free, open discussion and reflection on the data, ideas, and method (Spall, 1998). In this study, peer debriefing was conducted in the process of the three data analysis phases as well as developing working hypotheses. Five graduate students who majored in special education or educational psychology were involved in the transcription and we met almost every week to discuss their views and feelings in transcribing the videotapes. After their transcription, I reviewed the whole transcription again to check the transcription accuracy. In addition, Dr. Chiang, who majored in early childhood education and curriculum study, reviewed my analysis data and gave me suggestions regarding data analysis and translation. Moreover, the professors on my committee, who discussed with me and gave me suggestions, helped me to improve the trustworthiness of this study.

5. I conducted a data translation and bilingual translation checking for this study. Since the data collection of this study was in Southern Taiwan, the first level of audio/videotaped data transcription was in Mandarin and Taiwanese because both teacher and student participants spoke these two languages. I

then translated the first level transcription from Chinese (Mandarin and Taiwanese) into English. After data translation, the bilingual translation checking was followed during the bulk of data analysis and the writing process. The bilingual translation checking allowed me to ensure the accuracy of meanings conveyed in the translation of the data. Two of my friends helped me to check bilingual translation. One was Dr. Chiang, as I mentioned before, who majored in early childhood education and curriculum study and served as an assistant professor in English-as-a-Foreign-Language (EFL) teacher training for young children in Taiwan. The other one was one of my peers at the University of Texas at Austin, who comes from Taiwan and is in the Department of Special Education and the Autism and Developmental Disabilities program. She also checked part of the bilingual translation. She speaks both Mandarin Chinese and Taiwanese daily in Taiwan. After moving to Austin, she translated one book for publication and one paper for a nationwide conference from English to Chinese, and several official handouts for either the International Office or the UT Apartments from either English to Chinese or Chinese to English. Moreover, two of my colleagues, experts in Taiwanese language, helped me check the Taiwanese transcription to Mandarin. They served as trainers in the Taiwanese language teacher preparation.

Transferability

The issue of generalization of the study was arranged by transferability. The obligation of transferability in a naturalistic study is not to provide generalization to the

population, but to exhibit transferability across contexts that may be relevant to the readers due to shared characteristics (Erlandson et al., 1993). Purposive selection of the participants and rich and detailed descriptions were applied to provide sufficient information in order to assist the readers to establish the degree of similarity between this study and other situations to which findings might be transferred. Nevertheless, the transferability of this study's findings would still be based upon the readers' own judgment (Erlandson et al., 1993). Detailed description of the research context is provided in the subsequent chapter with regard to, but not limited to, the following areas: (a) overview information about the class in terms of the environment, daily activities, small groups, inclusive activities, goals of the class, IEP for the students, and cooperation and communication with parents; (b) characteristics of the teacher participants, in terms of personal and professional backgrounds, lesson plans for the students, and perspective and feelings of experiences working with young children with developmental disabilities; and (c) characteristics of student participants, including family information, prior education histories, children's performance, moods and challenging behaviors, and social communication skills.

Dependability

The spotlight of dependability is to demonstrate that the procedure of the inquiry was logical, traceable, and documented (Schwandt, 2001). Dependability is ensured if other researchers are able to find the same or similar findings when they replicate the inquiry with the same or similar participants in the same or similar settings (Erlandson et al., 1993). The utilization of field notes and a coding system provided documentation for an audit trail to establish the dependability of this study.

Confirmability

Confirmability is the ability to ensure that the data and interpretations are drawn from generated data rather than from the researcher's own views (Lincoln & Cuba, 1985). Member checking with teacher participants and peer debriefing assisted me to ensure that the data analysis and study findings were definitely grounded from the generated data.

In sum, prolonged engagement, triangulation of data collection and data sources, member checking, peer debriefing, data translation and bilingual translation checking, purposive selection of the participants and rich and detailed descriptions, as well as field notes and a coding system facilitated the credibility, transferability, dependability and confirmability, and all contributed to the establishment of trustworthiness of my study.

Establishment of Authenticity

One of the strengths of naturalistic inquiry is its assumption concerning multiple realities constructed by different individuals. The researcher has an obligation to make sure to generate an actual understanding of the participants' experiences. To build the authenticity, this study applied five authenticity criteria which were developed by Guba and Lincoln in 1989. The five criteria were fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity.

Fairness involves the equal voice and access of each participant in the research procedure (Erlandson et al., 1993). During the research process, I was cautious of ensuring participants' equal state and access. I ensured fairness by making sure that each participant had an equal opportunity to contribute to the study. The teacher participants received a copy of the teacher consent form at the beginning of the study to help them

understand their right to agree to participate in, to refuse to participate in, or to withdraw from the study at any time during the research procedure. The same was true for the parents of the student participants. They each obtained a copy of the parent consent form to facilitate their understanding regarding their right to give consent for their children to take part in, to refuse take part in, or to withdraw from this study at any time for the period of the study.

Ontological authenticity engages evidence that the participants have reached a greater understanding of the study's focus (Erlandson et al., 1993). This study focused on the nature of interactions between teachers and students during communication intervention activities, and how both were mutually influenced by such interactions.

After discussing how the experience of working with young children with disabilities could be a factor in teaching, Miss Betty came to realize that she learned from these young children with disabilities after teaching them because she could see their difficulties in learning. She said,

其實我們可以在他們身上看到說，他們所需要的在哪裡，那這些所需要的，我們平常可能一般的普通孩子，表現的都很輕而易舉，可是我在他們身上發現到，有些動作對他們來說，非常非常的難，甚至沒辦法做到。... 最簡單的一個舉手，他們真的作不出來，... 可是我們覺得一般來說這個很簡單啊。但是他們呼吸上，一般來說我們都覺得呼吸沒有什麼感覺啊，就是這樣子呼吸啊，可是對於極重度的孩子來說，呼吸對於他們來說也是一個很重要的一個課程表現。

Actually from them, we can find what they need. These necessary actions for general children would be very easy for them to do, but I realized after observing them that some movements were very difficult and that they could not even do them. ... The simplest movement, like raising their hands, may be hard for them to do. ... But generally speaking, we feel it's a very easy movement. Even breathing; generally speaking, we feel like it's natural to breathe, but for children with profound disabilities, breathing is an important part of the course for them.

(2nd interview with Miss Betty, 6/15/07)

In our second interviews at the end of the semester, Miss Amy admitted that this year she felt that she had accomplished less in teaching these young children because of the children's exhibition of various challenging behaviors. She described,

今年這個小朋友過動程度比較嚴重，我會覺得比較沒有成就感，就是一直把他拉回來，處理他的行為的部分，今年有狀況的小朋友也比較多，沒有語言的小朋友比較多。以前有兩三個小朋友比較會講話，會帶動大家。今年的話，變成再加上David也比較不會講話，Tom他會講話，但是不按牌理出牌，就會比較亂的感覺。

This year, the young children have been more severely hyperactive. I felt less success because I have to drive him back to deal with his behaviors. In addition, the young children displayed more problems, and there were more nonverbal children. In the past, there were two or three young children who could speak up more, thus encouraging others to speak up also. Yet, this year, David spoke less words and Tom could speak but spoke differently from the others. I felt it was more chaotic.

(2nd interview with Miss Amy-1, 6/06/07)

Educative authenticity refers to the evidence that the participants appreciate the viewpoints of the other party while catalytic authenticity involves the fact that participants are considering new understanding to guide their behavior and decisions (Erlandson et al., 1993). Tactical authenticity means that participants are empowered to take action and make changes (Erlandson et al., 1993). Miss Amy demonstrated educative, catalytic authenticity and part of tactical authenticity regarding her new understanding of the three areas. She saw a need to increase the teachers' understanding of children's challenging behaviors and to enhance their social communication skills. She said it could be achieved by carrying out social communication skills training. In my interviews with Miss Amy she expressed,

所以我下學期，我的認知課程前要加些社交技巧訓練，或者是說找機會，就像我們今天他想要玩那個[玩具]，我就叫他要想起[說]“謝謝，對不起”這些

東西。... 也不能全部都只上注音符號這些東西，那我就是想說那就切一半啦，一半就是社交技巧，一半就是認知，就是操作技巧。

So next semester in my cognitive lesson, I will include some social skills training or find chances to allow them to practice to say “thank you” or “sorry”. Like today they wanted to play with the toy, and I reminded them to say “thank you” or “sorry”. ... I cannot only teach Zhuyin Fuhao (national phonetic symbols), so I think I need to separate it into two parts: one is social skills training and the other is cognition, which is operational skills.

(2nd interview with Miss Amy-1, 6/06/07)

I further asked her, what is her meaning of “one is social skills training, and the other is cognition, that is operational skills”? She explained,

[就是在]開學之初，大約一週，較多的時間是班級經營及學生行為管理。只帶入一點課程內容，孩子能遵守教室規範後，上分組課時，[進行]認知或溝通[課程]20分鐘，[加上]精細動作練習10分鐘，[那時]只需稍微提醒常規。如遇到ADHD孩子入學，就增加社交技巧訓練10分鐘，認知或溝通[訓練]15分鐘，[加上]精細動作練習10分鐘，練習完的[學生可以]先下課到遊戲場玩。

That is to say, in the beginning of the semester, for about one week, I will spend more time carrying out classroom management and dealing with the students' behaviors. I only teach a little of the academic lessons until after the children can follow the class rules, and then I have small group time. During small group I will carry out cognition or communication training for 20 minutes and then add 10 minutes of fine motor training. At that time, I only need to lightly remind them of the class rules. If I have a student with ADHD, I will do social skills training for 10 minutes, cognitive or communicative lessons for 15 minutes and fine motor practice for 10 minutes. The students who finish the tasks early can be dismissed early and go play at the playground.

(E-mail with Miss Amy, 1/04/08)

I observed that Miss Amy carried out some classroom management during the small group. For example, she set up reward requirements to reinforce the young children to follow the class rules and speak up. Moreover, near the end of the semester, she started to implement social communication training by asking Miss Betty to co-teach and demonstrating the appropriate social communication skills through role-play. However, due to the limited time of this study, I did not observe Miss Amy carrying out the whole

procedure which she claimed to execute. Therefore, tactical authenticity was not fully established during the period of data generalization.

Summary

This study was designed to investigate the nature of social interactions between teachers and children with severe/multiple developmental disabilities in Kaohsiung County, Taiwan. This study was guided by qualitative rationale with a focus on discourse analysis in order to explore teacher-student interactions when working with young children with developmental disabilities including SMDD, through observations of interactions between young children and their teachers in a classroom in a public elementary school. Purposive selection of participants for this study focused primarily on the children's characteristics (e.g., level of disabilities and communication intervention needs) and on their teachers and/or therapists. Data sources included interviews, participant observations (classroom observations), document reviews, and field notes. Data analysis methods involved cross-case analysis, constant-comparative analysis, and discourse analysis.

Utilizing naturalistic inquiry with discourse analysis allowed me to explore the nature of communication between teachers and students with developmental disabilities including SMDD. Although the validity of generalization may not be demonstrated in the study because of the diversity in the special education settings in which observations are conducted, it is expected that the readers yield detailed, accurate, and stable patterns of teacher-student interactions that can potentially provide significant insights into an important aspect of communication interventions for young children with developmental

disabilities including SMDD. Before addressing the findings of the study, the contextualization of the phenomena will be illustrated in the following chapter.

Table 1: Transcription conventions

Transcription conventions

Symbols	Behavior/speech act	Description
<i>Italics</i> (<i>Italics</i>)	Nonverbal response	The italics sentences indicate actions for children's nonverbal response. If the actions are with words, the action will be marked within parentheses.
[Simultaneous speech	Brackets indicate overlapping speech; two people speak at the same time.
(.)	Short pause	Two dots within parentheses indicate pause of less than 1/2 second.
(...)	Long pause	Three dots within parentheses indicate pause of more than 1/2 second and less than 5 second.
(#)	Pause longer than 5 seconds	The number within parentheses indicates the pause seconds when the pause equally or longer than 5 seconds.
:	Short elongation	Colon following vowel indicate elongated vowel sound.
::	Long elongation	Extra colon indicates longer elongation.
-	Self interruption	A single dash indicates a halting, abrupt cutoff with glottal stop.
(→)	Interaction object	Right pointing arrows indicate the speaker is talking to, facing to or looking at someone (e.g., (→David)).

↑↓	Intonation shifting	Upward and downward pointing arrows indicate shifts in intonation.
***	Inaudible speech	Three stars indicate inaudible utterance.
‘ ’	Tentative transcription	Words within single quotation marks indicate a tentative transcription.
[]	Parenthetical explanation	Sentences within parentheses indicate parenthetical situation.
...	Discontinuous quote	Three dots indicate discontinuous quote.
<u>Boldface</u>	Language use	Words that are boldface italics with underline indicate Taiwanese.
<u>Italics</u>		

(adopted from Gutierrez, Rymes, & Larson, 1995; Maloch, 2002; Schiffrin, 1994; Tannen, 1989)

Table 2: The translation synopsis of Taiwanese, Mandarin and English

The translation synopsis of Taiwanese, Mandarin and English

Page	Taiwanese	Mandarin	English
97	教著好的學生，我會有好運，教著壞的學生，我會歹運。	教到好的學生，我會有好運，教到壞的學生，我會倒楣。	<i>Teaching the good students will bring me good luck and teaching the bad students will bring me bad luck.</i>
128	甘會使一直講：我、我、我、我，甘會使？甘會使？	可以一直說：我、我、我、我，可以嗎？可以嗎？	<i>Can you keep saying “I, I, I, I”. Can you? Can you?</i>
128	袂使，按呢不好喔。	不可以，這樣不好喔。	<i>No, you cannot. This is not good.</i>
140	等一咧	等一下	<i>wait</i>
145	你走啦，你，這個耍的是我的喔。	你走啦，你，這個玩具是我的喔。	<i>You, go away! This toy is mine.</i>
146	伊亂來	他亂來	<i>He was acting out.</i>
146	亂	亂	<i>confused</i>
149	你無講“有::!”	你沒說“有::!”	<i>You did not say “yo::!”</i>
160	好! [我欲]共爸爸講，爸爸講-，無人[佇上課]咧睏了。	好! [我要]跟爸爸說-，[跟]爸爸說-，沒有人[在上課中]睡覺的	<i>Ok! I will tell [your] father, tell [your] father. No one sleeps in class.</i>
163	你欲[佮我]牽手無？	你要[和我]牽手嗎？	<i>Do you want to hold my hands?</i>
163	我欲。	我要	<i>I want it.</i>
163	你欲牽手愛細聲講話咧。	你要牽手要小聲[說話]	<i>If you want to hold hands, you have to speak softly.</i>
163	我會	我會	<i>I will</i>

164	你佢David換位，好毋好？	你和David換位子，好不好？	<i>Change seats with David. OK?</i>
164	你坐我的邊仔，甘好？來。	你坐我的旁邊，好嗎？來。	<i>Come to sit by me. OK? Come!</i>
165	我佢你好	我跟你好	<i>I want to be your friend.</i>
165	我無愛佢你好	我不跟你好	<i>I don't want to be your friend.</i>
165	你講，乎你講就好矣。	你說，讓你說就好了。	<i>Talk. I'll let you alone talk.</i>
166	破去矣！	破掉了！	<i>It is broken!</i>
166	破去矣，無要緊。	破掉了，沒關係。	<i>It's alright that it's broken.</i>
166	你按怎矣？你共我講！	你怎麼了？你告訴我！	<i>What happened with you? Tell me!</i>
166	我手痛！	我手痛！	<i>My hand hurts!</i>
166	我幫你撫撫咧！	讓我安慰你！	<i>Let me soothe you (by moving her hand to and fro on the hurt part of body).</i>
166	手足酸喔！我撫撫咧！	手很酸喔！我擦擦！	<i>Your hands are very sore! I soothe them!</i>
166	好矣！	好了！	<i>Done!</i>
175	奚	那個	<i>that</i>
175	水	水	<i>water</i>
175	我知影矣，伊是講他欲用水彩。	我知道了，他是說他要用水彩。	<i>I know it. He said he wanted to use watercolors.</i>
176	匿嘴	抿嘴	<i>Lips closed tightly. (almost burst out crying)</i>
176	哽著	噎到	<i>choked</i>

CHAPTER FOUR: CONTEXTUALIZATION OF THE PHENOMENA

What is the nature of interactions between teachers and young children with developmental disabilities during communication interventions? And how are both mutually influenced by such interactions? The preschool/kindergarten special education class at Freedom Elementary School was telling its own stories—the real life in this class. Three teachers and four children with developmental disabilities including severe/multiple developmental disabilities (SMDD) were the main subjects in this story. The three teachers brought their own unique personal backgrounds and professional experiences to be shared separately by providing in-depth descriptions in order to understand who each individual teacher was. These four children exhibited different disability levels and problems that were introduced in this chapter from the interviews of the three teachers and their documents. Themes emerged from interviews regarding their perspectives and experiences in working with young children with disabilities and were discussed in this chapter. This provided the context for understanding the teacher-student interactions. Chapter five shows the findings of the current study which is a presentation of themes based on the interactions that happened during classroom observations. I will begin with an overview of the class.

Overview of the Class

Freedom elementary school, located in Gungshan Town of Kaohsiung County, is a rural town. In this town, most people speak Taiwanese more often than Mandarin, even though the main language taught in schools is Mandarin. The preschool/kindergarten special education classroom is at the south wing of the front building. There were two

main teachers--Miss Amy and Miss Betty and a retired volunteer special education teacher, Miss Cathy, in this class. Miss Amy was the lead teacher and Miss Betty was her partner. Miss Cathy was a part time volunteer teacher and came to the class every Wednesday. The four students were Kevin, David, Tom and Julie.

The Environments

When you entered this classroom you had to take off your shoes, change into slippers, and go up a 30 centimeter high stage to the wooden floor. In the middle of this classroom there were two flexible screens, one on the right and one on the left. They could be pushed together to separate the room into halves. During small group time, they pushed the screen together (they said, “close the door”) and separated the room into two areas. The area near the entrance was for small group activities for children in group A, who were higher functioning children than group B. Miss Amy and Miss Betty took turns to teach language or math in this area. Another side of the classroom had three small tables set together, which was their snack area as well as table activity area. Beside the snack area, there was a mat which was the area for group B’s children. Usually children with severe/multiple developmental disabilities would be assigned to group B, and the activities for the children would take place in this area. Besides this preschool/kindergarten special education class was a general kindergarten class which was next door. These two classes shared a big playground. This general class served children with typical developments, and there were 20 children in this class.

Daily Activities

The weekday activities of the class involved three parts: snack time in large group, small group activities and inclusive activities. In the morning, when the children

came to school, the teachers greeted the children and their parents. Then they sang a song to begin their activities—eating snack and if the children finished their snack early they could play at the centers. After the children finished their snacks, the students separated into two groups to have small group activities. The inclusive activities happened on Thursdays when the children joined the activities of the general kindergarten class next door.

Small Groups

The teachers assigned students into two groups for small group activities since there were two main teachers in this class. They cooperated with each other by teaching different areas of academics. As Miss Amy explained:

我們兩個老師會搭配啊，就是，每個人教一個領域，大致上是語文跟認知分開，那我是語文，另外一個老師是數學認知這一部分。

We cooperate; that is, each of us teaches a domain. Basically, we separate language and cognition. I teach language, and the other teacher teaches mathematical cognition.

(1st interview with Miss Amy, 2/27/07)

According to Miss Amy, she assigned the students based on the capability level of the students based on their language, cognition and level of disabilities. As she expressed:

事實上我就是看學生進來的程度，因為我們班上有兩個老師，所以我大致會依能力上會大致分兩組...因每屆學生狀況不同，大致上學生的分組是按照他們的語言能力、認知能力和肢體障礙之程度，如果有視障或聽障的學生我們會另外安排。

Actually, it depends on the capability level of the students when they are just placed in this class. There are two teachers in this class, so I will assign the students to two groups based on their capability...because every semester the capabilities of the students are different, so I assign the students to the group based on their language, cognition and disability level. If there are students with visual or hearing impairments, we will have special arrangements for them as well.

(1st interview with Miss Amy, 2/27/07)

The two groups were group A and group B. Group A was for young, verbal children whose functioning levels were higher than group B, which was for young, non-verbal children or children with SMDD. Three of the student participants, Kevin, David and Tom, were in group A and another student participant Julie was in group B. There were two small group periods during daily routines except Thursdays. During small group activities, Miss Amy taught language and Miss Betty taught math. They switched to teach group A and B during small group activities. Miss Cathy came on every Wednesday and taught art for the children—she gave one-to-one instruction for the young children to draw pictures during small group periods. When she came to the class, she would take one child aside to give individual instruction each time and then switched to another child after she finished her instruction to the first child. Usually, she would teach two to three children when she came to the class, so each child would have the art class with Miss Cathy every other Wednesday. The social communication interventions were carried out by these three teachers through different teaching materials during two daily small group activities of the day.

Inclusive Activities

The class designed some activities to include their children into the general classes. Some examples are the school's anniversary sports games and the activities in the general preschool/kindergarten class every Thursday. Then as Miss Amy said, the children would use their learning in the general class to evoke their motivation to speak in their own class:

我們每個禮拜四都會過去[隔壁的普通班]，我會配合隔壁班的教學，然後再回來複習，因為他們團體當中他就會學習到說，大家都在唸，那我也要唸，然後他會把他類化到這邊[特殊班]來，好像感覺自己到[普通]班上上課，他也會唸出來，動機就會比較強。

We join the general class next door every Thursday. I followed their learning schedule. Then after we came back, I would help to review. They learn while in the big group because everybody reads, so the students want to read as well. And then, he will generalize the materials back to his own class. They feel like they were in the general class when they came back to special education class. They will also have a stronger motivation to read.

(1st interview with Miss Amy, 2/27/07)

According to Miss Amy, this special class not only joined the activities in the general class but also took their worksheets to review in their class. Thus, they would have the same activity topics:

其實我們能夠上主題的時間不多，就只有過去隔壁班而已，然後配合他們有去外面玩，我們那天會停下來，就不會在上分組的課程，所以就在那邊跟他們[普通班活動]...比如說觀察蝴蝶啦，或者是種花啦，還有什麼吹什麼氣球啦，到外面去觀賞影片，我們都會去啦。啊他們老師也很好，他們會...比如說他們星期四的主題，有一些作業單，他也會印我們班的給我們，啊我們就回來帶他們來寫來做，然後就一起下課。

Actually, we do not have much time to work on our topics. Our topics are the same as the activities of the general class while we go to the next door classroom. For example, we will stop our small groups and have the same outdoor activities with the general class. There we do such things as observe butterflies, or plant flowers, and blow up balloons, as well as watch a movie. We will go with them. Their teachers are very good. For example, they have a topic every Thursday. They have some worksheets. They will make copies for us. We then bring them back and teach the students to write the worksheets. Then they will have a break at the same time.

(1st interview with Miss Amy, 2/27/07)

In order to allow the children with disabilities to have more chance to interact with other typical children, the class even sets the same schedule with the general kindergarten class, located next door. So, they would have the same break time and the

children could go out to the playground and play together. This was a way for the class to provide part time inclusive activities for children with disabilities. Miss Amy stated:

[我們跟他們時間作息]是一樣的，我們都配合他們，我們也會看到他們一出去[遊戲場]，我們就趕快下課。... [就是爲了讓他們]能夠在一起的時間，對。就是每天都有啦，他們[普通班]也很好啊，都是蠻規律在下課的，沒有說突然有下課，突然沒下課這樣子。

Our schedule is the same as that of the general class. We follow their schedules. Sometimes, when we notice they have a break, we will hurry to break too. ... Yes, let them have time to get together. Every day we have the same break time. They are also very good and have breaks regularly. They won't sometimes have a break and sometimes not.

(1st interview with Miss Amy, 2/27/07)

Goals for the Class

According to Miss Amy, the lead teacher was directing them so that most of children would adapt well into general classes. This was her biggest goal, even though this long-term goal seemed impossible for those with severe multiple developmental disabilities (SMDD). However, if the children had mild to moderate disabilities or autism, she hoped they could be placed/transitioned into general classes. As she described:

然後- 那我們大致上，會有- 一定會考慮到小孩子能夠適應到普通班去的最大目標。我們盡量是說，他能夠脫離到特教班，然後到普通班去，但是重度的不太可能，那如果說是輕中度，或者是自閉症這些，我們都希望他能夠有能力到普通班去。

Then, eventually, in general, my anticipation is that most children will adapt well into a general class. This is my biggest goal. We do our best to help the children leave special classes; then they will be transferred to general classes. However, this long-term goal seems impossible to attain for those with severe disabilities. However, if the children have mild to moderate disabilities or autism, we all hope those can be placed/transitioned into general classes.

(1st interview with Miss Amy, 2/27/07)

IEP for the Students

Miss Amy and Miss Betty designed each student's independent education plan (IEP). According to Miss Amy and Miss Betty, they would discuss the students' condition before they designed their IEPs. And then, Miss Amy wrote some students' IEPs and Miss Betty wrote the rest of the students' IEPs. Moreover, most of the parents seemed to agree with their children's IEPs because they seldom gave many opinions during their IEP meetings. As Miss Amy explained:

我們兩個老師會先討論，討論的內容包括學生之分組、課程、教材的選擇、時間的安排及環境的改變，例如教室佈置及設備的增減、輔具的改變、課桌椅的安排。然後我們兩個人再來寫學生的IEP，她寫幾個學生，我寫幾個學生。就是這樣，在寫的過程中我們會互相討論。然後再與家長開IEP會議，但是家長大都沒有意見。

Both of us teachers would discuss first. Our discussion included the assignment of the small groups, curriculum, choosing teaching materials, setting schedules and changing the environment, such as classroom decoration, adding or reducing the equipment, changing assistive techniques, and discussing how to arrange the tables and chairs. And then, we wrote students' IEPs. She wrote some students, and I wrote some. In this way, during the process of writing IEPs, we would discuss each others' plans. And then, we had an IEP meeting with the parents but most of the parents were without many opinions.

(1st interview with Miss Amy, 2/27/07)

The long term goals of students' IEPs were set according to the student's current capability; however, the short term goals were adapted from the preschool curriculum of special education which was published by the Ministry of Education in 2000. Miss Amy said,

學前特殊教育目前並沒有統一的課程標準，目前我們班是參考使用教育部委託台灣師大發展出之學前特殊教育課程，是民國89年出版的，來訂定學生之IEP。我們的IEP內容是先描述學生的能力，再依據他們的能力設計學生的長期目標。依據長程目標的內容而設定短程目標，短程目標擬定是參考台灣師大發展出之學前特殊教育課程目標檢核手冊，再依學生的能力來修改部分內

容。而我們在課程教學中就觀察學生是否有此能力，評量的方法分為打勾(V)是完全會、三角形(△)是需要別人協助完成或不穩定、打叉(×)是完全不會。

At present, we do not have unified course standards for preschool special education. Our class, at present, used the preschool special education curricula to design students' IEPs. These curricula were designed by the National Taiwan Normal University and published by Taiwan Ministry of Education in 2000. The content of our IEP was first a description of students' capabilities, and then long term goals, based on students' capabilities, are added. According to the long term goals, we designed their short term goals, which were adapted from the preschool special education curriculum goals of a checklist booklet developed by the National Taiwan Normal University. We modified their short term goals according to our students' capability. We would observe whether the students show these capabilities during our class instructions. We checked the capability if they can do it, marked a triangle if they can do it under others' assistance or if unstable and marked X, which meant they cannot do it.

(E-mail with Miss Amy, 1/04/08)

Miss Amy explained why she used student capability checklists to design students' short-term goals. She thought it would be easier to use and more practical to fit students' situations. She said:

在幼稚園的教學大都偏向[兒童]發展性之目標，依據學生之能力由淺到深來設計 IEP。依我教學多年的經驗發現，用檢核表之方式來設計成學生的短期目標，這樣是最容易運用的、範圍較廣且較實用，也較配合學生的狀況。因為學前的孩子與小學及中學的課程不同，學前[特教]的孩子普遍能力較慢，所以要依他們的能力來設計IEP 而不是學科。

It tends to use children's development as goals in kindergarten. Based on students' capabilities, the IEP is designed from simple to complex. According to my long-time teaching experience, the use of checklists was the easiest way to design students' short term goals. And it covered wider academic areas and was more practical. Also it fit students' situations more accurately. Since the curricula of preschools were different than those of elementary and middle schools, the IEPs should be designed based on the student's capability instead of the subject areas because the preschool children in special education generally develop slowly.

(E-mail with Miss Amy, 1/04/08)

Cooperation and Communication with Parents

The main teachers in this class were Miss Amy and Miss Betty. Regarding the teachers' cooperation or communication patterns with the parents in this class, I put my focus on Miss Amy and Miss Betty only. These two teachers tended to communicate with parents through more oral information than written notes. Miss Amy explained it was because they saw the parents almost every day. As Miss Amy said, when she wanted parents to assist at home after she taught them something in school, she would talk to them one after another.

我會一個一個講啊，就是針對每個孩子，每個家長就去跟他講說，今天哪裡好，哪裡不太好，他要怎麼練習，我們每一天都會講。... 他們[家長]幾乎每天都會跟我們見面，就是講的比較多，用寫的比較少。

I tell them one by one. That is, I tell each parent the strengths and what area the student needs to improve on and how the students can practice. I talk to them every day. ... They [the parents] meet us almost every day. We talk to them more than we write it down.

(1st interview with Miss Amy, 2/27/07)

Miss Betty also mentioned that she communicates with parents everyday. She would tell the parents what she observed in the children's performances and what the parents should do to help at home or which children's problems the parents need to notice.

我會跟家長說，這個孩子他哪裡須要加強。... 在高組方面，我們會跟家長說，你的孩子今天表現的很好喔，在某方面進步很多喔。不好的部份，我們會跟家長說，你回去再幫它強化一次。... 我們低組方面，我們跟他講什麼，他在笑，他會有什麼反應。今天他來的時候精神不是很好，可能有點不舒服怎麼樣，我們會跟家長說，或是今天他來的時候一直拉肚子。食慾方面，我們會告訴[家長]他好跟不好，他的身體狀況有沒有什麼問題。

I tell parents what area the child needs to improve on. ... Regarding the higher group students, we tell parents that your child performed very well today or made progress in some areas. Regarding the areas that the child did not do very well in, we tell parents that you have to help him review it again. ... Regarding the low group, I told them that the child responded to us with laughter or any other

reactions while we said something to him. We would talk to the parents-- today when he came with low energy-- maybe he did not feel well or something else. Or today he had diarrhea a lot. Regarding their appetite, we would tell the parents if it was good or not, and if there were any problems about his condition.

(1st interview with Miss Betty, 2/27/07)

In sum, the overview of the class provided a snapshot of the class regarding its environment, daily activities, small groups, inclusive activities, goals for the class, IEP for the students, and how the teachers cooperated and communicated with the parents. After giving an overview of the class, in the following I displaced the profiles of participants including teacher participants and student participants.

Teacher Participants

The three teacher participants were Miss Amy, Miss Betty and Miss Cathy. They brought their own education and training backgrounds and teaching experiences along with their different perspectives and ideas of working with children with different levels of disabilities when they wrote the lesson plans for their students. Besides the three teacher participants' backgrounds, I also wanted to identify with their instruction methods and perspectives and feelings in working with young children with disabilities. Hence, I used constant-comparative analysis (Merriam, 1998, Mertens, 2005; Strauss, & Corbin, 1998) to analyze their interviews. I read, grouped and re-grouped the data to establish the categories. Finally many themes emerged and formed three categories: (a) instruction for verbal children with mild to moderate developmental disabilities, (b) instruction for nonverbal children with SMDD, and (c) perspectives and feelings in working with young children with disabilities. Here were the profiles of each teacher participant.

Miss Amy

Miss Amy, the lead teacher, was a special education teacher since 1994, of 13 years teaching only 2 of those years were as a general education teacher and the rest of the 11 years were as a special education teacher. She studied early childhood while she was in college, and then she taught in a special education class in a public school even though she did not have a special education teacher certificate at that time. In 1994 the educational laws did not restrict a teacher without a special education teacher certificate to teach in a special education class. She received 40 credit hours of special education training (during 2001 to 2003) after she became a special education teacher. At the same time of taking special education training, she also attended graduate school in National Chung Cheng University and graduated from the department of Psychology in 2003. This is what Miss Amy recalled:

教育背景的話，我是先修普通班幼兒教育學分，然後我考上了公立幼稚園之後，然後再去加修幼教系暑期班，然後- 就是說我考上公立的時候我是選擇特教班。啊- 那時候是民國83(1994)年，當時並沒有限制說，一定要有特教資格，才能擔任特教班老師，那我是進去之後，到特教班去教了幾年之後，才去修特教學分班，40學分班嘛，然後- 這一路上我只有兩年是教普通班，那兩年是爲了要調校，然後才去普通班，因爲普通班班級數多，我才可以調校，然後就調到這邊來，都是一直在教特教班，總共從83年教到96年，總共13年，這13年裡面，有11年是特教班，那- 其中兩年聽障，其餘都是不分類特教班，恩恩- 這樣子。

Well, regarding my education background, I took credits in early childhood education first, and then I passed the exam and became a public kindergarten teacher. Then, I took summer classes in early childhood special education. Then...that is to say, I chose to teach in a special education class after I passed the public kindergarten teachers' exam. At that time, it was 1994, and you did not have to have a special education certification to be a special education teacher. That's why I entered the public school and later I took special education classes to get the required 40 credit hours. While preparing to be a special education teacher, I only taught general education classes for two years. That was because that I wanted to transfer to another school where there were more general classes than special classes. Later on, I transferred to this school to teach in a special class until now; from 1994 to 2007, a total of 13 years, of which 11 years I taught in

special classes. I taught children with hearing impairments for 2 years, and for the rest I taught students with all kinds of impairments. Umm- like this.

(1st interview with Miss Amy, 2/27/07)

Instruction for Verbal Children with Mild to Moderate Developmental Disabilities

Group A was for young children with verbal or with mild to moderate developmental disabilities who were functioning higher than children in group B. The instructions for the young children in Miss Amy's group A were summed up with the following themes: (a) Teaching national phonetic symbols (which is also named Zhuyin/Chuyin or Jhuyin Fuhao) and leading the children to talk. (b) Same teaching materials and different demands for children's responses. (c) Recognizing symbols, playing games and writing symbols as regular group instruction procedures. (d) Cooperation with general class through inclusive activities. (e) Classroom management before academic instruction. (f) Giving reinforcement to attract and maintain children's participation in group activities. (g) Giving punishment to quickly stop children's interruption. (h) Less pressure while in individual instruction during break time. In the following I will illustrate each theme of instruction for verbal children with mild to moderate developmental disabilities.

Teaching national phonetic symbols and leading the children to talk. In Taiwan, early literacy refers to the instruction of national phonetic symbols, that is Zhuyin/Chuyin or Jhuyin Fuhao, which is usually simplified as Zhuyin/Chuyin or Jhuyin. It is a phonetic system as a tool for people learning to read, write or speak Mandarin before they are able to recognize or write complicated Mandarin Chinese characters. This system, currently in wide use in the Republic of China of Taiwan, consists of 37 phonetic symbols and 4 tone marks, comprehensive enough to transcribe all the possible sounds in Mandarin

(Wikipedia, The Free Encyclopedia, 2008). At present, teaching the phonetic symbols is not involved in the curriculums of early childhood education in Taiwan because the curricula of kindergarten focus on learning through activities for young children instead of literacy learning. Even though Miss Amy did not think it would be appropriate to teach national phonetic symbols in kindergarten, she still taught them due to parents' wishes as well as the need to start early when these children learning slowly. Miss Amy mentioned:

幼稚園之課程是希望孩子在活動中學習，所以注音符號沒有列入普通班幼教課程內。溝通的部份，我們也會跟家長談，其實幼稚園不太適合教注音符號，但是因為他們的學習比較慢，媽媽她們又會希望他學，所以我們還是會教，家長他們很高興 ... 就是說，我們的分組課，可以一直叫他認字說話-認字說話，就很高興這樣子，就是其實是每個家長的期待啊。[希望他們的孩子]認字說話這個部份，在學校裡面能夠出來啊，能夠學習啊。

The curriculums of kindergarten desire the children to learn through activities, so the Zhuyin Fuhao (national phonetic symbols) are not included in the courses in general early childhood education. We also talked to parents about their child's communication. Actually, it is not suitable to teach national phonetic symbols in kindergarten. However, their learning is slower than other students so that their mothers hoped that their kids would learn it now. As so, we still have to teach it. The parents are very happy... that is to say, the parents are happy when we teach the children to recognize these phonetic symbols and pronounce them during our small group class. Actually, every parent has the same desire. They hope their children can recognize the phonetic symbols and pronounce them; they can speak up and learn in school.

(1st interview with Miss Amy, 2/27/07)

Moreover, it is not only to fulfill the parents' desires but also to help the children to use the computer or write in the future. That is why Miss Amy taught children to recognize the symbols of Zhuyin Fuhao (national phonetic symbols). As Miss Amy talked about the purpose of teaching these symbols:

讓他認字的主要目的是，認注音符號的目的是要，將來他也許可以在電腦上面，或寫作文的部份可以用的上，如果說國字對他來講，是很難去體會，那

至少可以用這些符號，去寫出來也可以，所以我們就開始去教他，然後..在教語文的部份，我們會選擇一些教材。那-我會教注音符號，我也會教國字，認而已，就只有認，從這裡面去讓他講話。

The purpose of teaching them to know Zhuyin Fuhao (national phonetic symbols) is that we hope they can use it in conjunction with the computer and writing skills later. If Chinese characters are too hard for them to learn, they can at least use these phonetic symbols to write something. So, we started to teach that; and we adapted some materials in terms of language teaching. I teach Zhuyin Fuhao (national phonetic symbols) as well as Chinese characters. I only want them to recognize the characters and inspire them to speak.

(1st interview with Miss Amy, 2/27/07)

Same teaching materials but different demands for children's responses. Miss

Amy designed similar teaching materials for the group, but when she was teaching, she would take individual differences into consideration. She would ask the students to give her different responses during her teaching. For example, if the students have higher capabilities, she used relevant but complicated questions to ask them. For those with more limitations, she assisted them to answer the questions or allowed them to use body language such as simple facial expressions and movements to respond to her, such as making choices between two pictures by pointing. Miss Amy explained:

然後我在教學的時候，我才會考慮到個別[差異]，因為我的課程一定要設計的都是差不多的，統一教材，但是我會要求不一樣的表達的反應。就是小孩子，如果他能力很好的，他必須講句子，如果他數學很好的，他必須要...可能在應用的部份都要出來，那能力不好的，他可能只要講字就可以了，或者是指認就可以了，那再不行的，他只要發一個音，他願意去表達就可以了。

Only when I am teaching, I take individual differences into consideration. I usually design similar teaching materials for the group, but I will ask the students to give me different responses during my teaching. For example, if the child has a higher capability, he must respond with a whole sentence. If the child is good at math, he/she needs to apply it to a more complicated question or situation. However, if a child has limited capabilities, he may simply speak a word or point out the word shown. If, unfortunately, the child has very limited abilities, I will only expect the student to make a sound, as long as he/she is attempting to say it.

(1st interview with Miss Amy, 2/27/07)

Miss Amy gave an example regarding how she taught the same teaching materials but allowed the children to give different responses. She said:

比如說，爸爸，我們這個[注音符號]ㄅ ㄩ 就是爸爸，然後就問他是男生還是女生，爸爸幾歲，你有沒有跟爸爸住在一起，類似這些問題，就會衍生出來，然後再講下一個，從簡單的到難的都會有。如果他真的不行，他只要爸爸跟媽媽之間選擇，正確那個是爸爸，圖案也可以啊，文字也可以啊，就這樣子。... 就是看學生能夠講多少，我也會利用比較好的他就先說，會模仿的就第二，動作比較慢的就第三。

For example, “ㄅ ㄩ” this Zhuyin Fuhao (national phonetic symbols) is “father”, and then I ask them “is he a man or a woman?”, “How old is your father?” Do you live with your father?” Some extended questions like these. Then, I will go on to the next. The materials include both simple to difficult. If he really cannot do it he can only make choices between two pictures or two characters such as “mother” and “father”. ... It depends on how much the students can talk. I will let the child who talks more to say things first and the one who can imitate goes next. The third would be the slower ones.

(1st interview with Miss Amy, 2/27/07)

Recognizing symbols, playing games and writing letters as an instruction

procedure.

Miss Amy talked about her procedures for her small group instruction for group A. Within 30 to 40 minutes, she let the children recognize the symbols of Zhuyin Fuhao (national phonetic symbols) and then played games with rewards followed by practicing writing the symbols. Miss Amy described:

只要讓他認，那寫的部份我們就- 我們大概30分鐘到40分鐘嘛，那你10分鐘之內念這個東西，然後呢中間就玩一下遊戲，比如說ㄅ ㄩ ㄇ，然後用ㄅ ㄩ ㄇ哪一個啊，指認- 或是叫他每個人都會辨認，好棒啊! 給獎勵品啊，這樣大概就十幾分鐘，然後剩下的時間就寫字這樣子，然後這效果還不錯啦。

We only show him how to recognize symbols. About writing...within 30 to 40 minutes, for 10 minutes, we read these books and then play games. For example, ㄅ(b), ㄩ(p), ㄇ(m), and ask them which one is ㄅ(b), ㄩ(p), or ㄇ(m). I wanted

him or- everyone to recognize them. Great! And I give them rewards. Like this it would take 10 minutes. The rest of time is writing. The effect was not bad.

(1st interview with Miss Amy, 2/27/07)

Cooperation with general class through inclusive activities. Miss Amy cooperated with the general kindergarten class and had the same topics in teaching. During inclusive activities every Thursday, she had the students go to the general class and learn together. And then she came back to review it in small group. The children would read more during inclusive activities. So, during small group time, she asked the children to read just as in the inclusive activities, and it helped these children to generalize the materials back to their own class. Also, they felt like they were in the general class when they learned it in their own special education class and thus, increase their motivation to read.

As she stated:

我是說我們兩班嘛，有一般普通班，一個特教班，那因為我們星期四都會全天融合，那我們會一個一個過來[普通班]。那我會把她老師上課的模式，比如說第一個步驟是什麼，第二個步驟是什麼，其實老師是有一個規律性的啦，然後最後就是玩遊戲。然後我就把她教的東西再拿到我們班去，就是特教班去，我就再教一次，或者是再多一點，或者是減少一點難度，然後再問他們，他們會以為他們自己在普通班。

I said, we have two classes, one general class and one special class, to offer inclusive activities for the whole day on Thursdays. We would come to this general class one by one. I would take the teacher's teaching model, for example step one did this and step two did that. Actually every teacher has her regular pattern of instruction. And then, finally we would play games. Then, I would take her teaching materials to our class that is, the special class. I would teach again, maybe make it more or less difficult to ask the children. The children would feel they were in the general class.

(2nd interview with Miss Amy-1, 6/06/07)

Classroom management before academic instruction. Miss Amy mentioned many times that classroom management should go before teaching academic courses. She said she would rather slow down her speed of teaching than hurry to go on teaching cognition

courses. During my first interview, Miss Amy pointed to a child and explained to me as she stated:

那這個小朋友就是剛開始，因為別人都已經練習一個學期都OK了啦，只有這一個小朋友要重新開始，所以我剛開始我會放一些時間在常規上面，也就是說誰坐好了就有獎勵品，然後他就看到別人有獎勵他就會坐好，再來上課。他只要不行了，我們就會把他拉回來在行為改變這個部份，就沒有說，就一定一直上課然後不管他，有時候我就寧可上課慢一點，等他一下，讓他常規訓練好，以後他- 就是說跟著大家一起安安靜靜坐下來，因為他，[所以我]要管秩序。就是說他們一定要有坐好啦，有一些瞭解上課的規矩性之後，我們才進入課程。就是說上課的時候，我們當然一定要有規矩。

See that child's learning is just beginning. The other children already practiced for one semester, and they are OK now. But this one needs to start from the very beginning. So, at this point I would spend some time on routine. The one who sits well would get a reward. When a child sees others getting a reward while sitting still, he will also sit still. And then I focus back to the class. If he can't follow, we will draw him aside to train his behavior. I would not ignore him and still go on with the class. Sometimes, I would rather slow down my teaching and wait for him to follow the class rules. Then he- that is to say, he could follow others by sitting quietly. Because of him, I need to set the order of the class.

(1st interview with Miss Amy, 2/27/07)

Giving reinforcement to attract and maintain children's participation in group activities. Miss Amy explained that the young children in the class had very short attention spans. Therefore, it seemed necessary to give continued stimulation to maintain their attention. The reinforcement that Miss Amy gave included various types of consequences such as giving tangible objects (e.g., giving candy), social attention (e.g., giving praise), giving tokens (e.g., drawing stars) or activities (e.g., playing a drum). As Miss Amy illustrated:

[孩子的]注意力啦，持續力啦都很短暫，所以他就會需要一直給他刺激物... 比如說畫星星，得貼紙，或者是等一下讓你當小班長，等一下讓你發糖果，等一下讓你敲大鼓或下課鐘，等一下讓你發簿子給小朋友，他就會很振奮的起來講話這樣子，如果說你沒有跟他一些什麼後續的這些東西的刺激的話，他就軟趴趴的，比較沒有精神講話。

Their attention and duration are short, so they need continued stimulation. ... For example, drawing stars or giving stickers to the child. Or tell him, “you can be the little class leader later”, or “later you can give candy to other children for me”, or “you can play the drum or ring the dismissal bell later”, or “you can give workbooks back to the class for me. He would become excited and speak; otherwise, without stimulations, he would lack the motivation to speak up.

(2nd interview with Miss Amy-2, 6/15/07)

Giving punishment to quickly stop children's interruptions. Giving consequences, including punishment, to the child with challenging behaviors could prevent him from interrupting others during group instruction. It would be a quick method to stop the interruption. Miss Amy explained:

但是有時候也會說，他們在干擾別人的時候，我們也是會不希望影響到別人，你不要去影響別人，也會有一些抓住他啊，或者是說請他罰站、罰寫或者是不給他椅子坐了這種事情，我們也會作，是因為這比較快速，對啊，才不會影響到別人比較多。

But sometimes, when they interrupt others, we do not want them to affect others. We forbade him to interrupt others, so we would grab him, or ask him to stand, to write worksheets, or not allow him to have a chair to sit in. We would do something like these, because it would work faster. Yes, so they would not go on to affect others.

(2nd interview with Miss Amy-1, 6/06/07)

Less pressure while in individual instruction during break time. Group instruction seemed to be more stressful for Miss Amy and the children. However, when in one-to-one instruction, she would not demand them to follow the group rules. Miss Amy clarified:

下課的時候，老師可以陪你玩，可以跟你- 你要玩什麼？我可以針對你玩的東西來聊嘛，你有興趣的東西來聊，可是上課的時候還是要有一個團體的規範在啊。如果是一對一我們都不會[要他遵守團體規範]，像他們早上來的時候，他們都很早，七點多就來了，我們也是跟他講話聊天啊，跟他開玩笑啊，就是很自然的，我們就不用那麼大的壓力，就是說，一定要你怎麼樣做，怎麼樣教和規劃這樣子。

During break time, the teacher can play with you [the child]. I could be with you to do whatever you wanted to play. I could focus on the objects that you played with to talk with you and chat about the subjects that you were interested in. However, during the class we must follow group rules. If in one-to-one instruction, we would not ask the child to follow the group rules. For example, in the morning, they came very early, around seven o'clock, we would chat with them and tell jokes with them. That was a very natural interaction. We did not have such big pressure. That is to say, you would not have to do exactly like this or teach like that or make plans.

(2nd interview with Miss Amy-2, 6/15/07)

Instruction for Nonverbal Children with SMDD

For children with severe multiple developmental disabilities (SMDD) and with physical problems, Miss Amy would focus more on the medical care such as medicine and physical therapy. Her lesson plans for these children were more sensory practice such as giving audio and tactile stimulation. Advanced lessons for these children may not be suitable. Miss Amy stated:

今年的學生剛好高低落差很大，低組的就沒有辦法學習到比較深一點的，他可能注重在比較感官的練習，所以他們的活動場所幾乎在這邊，還要[讓他們坐在輪椅上]推車要出去，那偶爾也會推過去聽啊，人家講話，聽人家上課。... 我們就是只能盡量作啦，盡量陪他們，就是每天摸，按摩，然後跟他講話，作肢體動作，聽聲音，看圖片這樣子而已啊。然後去外面逛一逛，感受不同的溫度，不同小孩子的聲音，不同環境的味道就這樣子。

There were great differences among the students this year. The low capability group could not learn many advanced materials. We might focus their learning more on sensory practice. So, their activities almost all took place in this area and sometimes we would push their wheelchairs and take them out. Sometimes, we would have them to join the group to listen to others talk. Listen to the class talk. ... We did our best to accompany them. We touched them, gave them massages, and then talked to them. We let them practice body action, listen to sounds, and look at pictures. And then we went outside to feel the different temperatures, listen to different children's voices and smell the scents in different environments.

(1st interview with Miss Amy, 2/27/07)

In order to promote the child with SMDD to do more body actions, Miss Amy used toys to give stimulation during interventions:

我們也是盡量拿那個玩具啊，綁她的手啊，讓她-或者踢-踢下去，咚咚咚，有啦- 她也會做，可是她不是控制這樣子，她是-就出去了，可是她- 等於說她還是有在控制啊，因為她會利用這個- 出去把它[玩具]推倒，那它[玩具]就[發出]咚咚咚，那她就會笑，她會這樣子。因為她反應比較大，就是說你給她聲音的刺激的時候，她會想要玩，那她就會腳踢手動，啊我們就故意在- 因為我們都知道就是這個方向，我們就會故意把東西放在這裡，讓她去推倒，故意放在這邊讓她去推倒。... 就是訓練她，希望讓她能夠自己知道要這樣子，或是有這樣子的動作。

We did our best to use toys. We tied [a toy] on her hand, or let her kick it to make “don don don” sound. Yes, she would do this, but not really control her arms. She only moved her hands or feet to touch the toy and pushed the toy down. However, it means she had some kind of control anyway because she would use this way to push the toy, and the toy moved with “don don don” sound. She would laugh. She would act like this. Her reaction was great. That is to say, when we gave her stimuli, she felt like playing. She would kick her feet and move her hands. We would place on the object on her way intentionally and allow her to push it down. ... it's to train her. I hope she could understand or she could perform this action.
(1st interview with Miss Amy, 2/27/07)

Miss Amy also thought the use of assistive technology devices would be useful for teaching children with SMDD to communicate with others. However, for children with SMDD they may not be able to control the device very well due to their limited controlling ability. Thus they limited the utilization of these devices.

因為其實治療是有時候要用溝通輔具，可是因為她的控制力真的是不太好啦，你說你要瞄到那個開關真的是有一點點困難，因為她手有時候會弄到有時候不會弄到，那你說這樣要訓練她會用這個控制跟人家表達說我要出去玩，事實上是有一點困難這樣子。

Actually sometimes, we used augmentative and alternative communication (AAC) devices during treatment. However, due to her poor controlling ability, it was a little difficult for her to touch the switch. If you wanted to train her to use this switch to express “I want to go out and play”, it was actually hard.
(1st interview with Miss Amy, 2/27/07)

Perspective and Feelings in Working with Children with Disabilities

When talking about the perspectives and feelings in working with children with disabilities, Miss Amy expressed she was very happy to teach them. And Miss Amy used her own experience to be a witness to prove her father's view as wrong. He thought teaching special students would bring misfortune. Miss Amy expressed:

因為我爸爸以前都會說，你不要教特教這麼多年，運氣會不好啦，中國人古時候的想法，**教著好的學生，我會有好運，教著差的學生，我會歹運**。我就說爸不會啊，你看我一路順風，還唸完這麼多書了，對不對，還工作薪水都還不錯啊，怎麼會不好，而且我還教得很快樂，而且我還可以掌控，人數比較少，然後可以知道他們每一個人，很清楚知道他們的每一個細節的部分，那我就覺得很開心。

In the past, my father always told me, “do not teach special students for so many years because it will bring bad fortune from traditional Chinese view —**teaching the good students will bring me good luck and teaching the bad students will bring me bad luck**. I told my father, “no! You see! I have been moving on my way smoothly and I had studied a lot, right? Besides, my work and salaries are not bad. Why was it bad? Besides, I have been teaching happily. I have more control because there are fewer students. I know everyone very well, even each minute detail. Thus I felt very happy.

(2nd interview with Miss Amy-1, 6/06/07)

Three themes emerged from Miss Amy's opinions regarding her perspectives and feelings in working with children with disabilities. They were (a) Building good relationships and understanding how to help effective instruction. (b) Children's growth causes their progress and teachers to just give them a hand to help them get on their way. (c) Accepting everyone's differences and doing one's best.

Building good relationships and understanding how to help effective instruction.

Miss Amy emphasized that to teach children you have to build a good relationship first in order to understand them. Miss Amy indicated:

如果說妳不瞭解他，妳強迫他，最多就是肢體衝突出來了這樣子而已啊。就是小朋友都是這樣子啦，第一就是建立關係，第二就是去瞭解他，然後知道

說他的優點他的弱點在哪裡，要作為以後交換條件用的啦，或者是說最後不得已的手段啦，跟他要他執行某些事情的時候，都很重要啦。... [跟他建立好關係] 然後才會越來越好，進入狀況比較容易啊。

If you do not understand him and you force him, it may bring physical conflicts. Children are like this. So, we should first build a relationship with them. And secondly, try to understand them. Then you will know their strengths and weaknesses. It could be something like a trade-off or the last strategy to use while asking him to do something. ... This is important to build a good relationship first. Then it will get better and easier to get them on the right track.

(2nd interview with Miss Amy-2, 6/15/07)

Children's growth causes their progress and teachers just give them a hand to help them get on their way. Miss Amy felt that it was the children's growth that caused them to make progress. As a teacher, she thought she only gave the children a little help to support them to walk their paths. Miss Amy expressed:

我有去讀他們現在的改變是什麼，對啊，但是我會覺得說其實我不覺得教學是他們成功進步的主要原因，其實我覺得成長讓他們進步的原因佔很重要的部分，尤其是小孩子。就是說因為他成長了，所以說他控制能力好一點，而不是因為我叫他要坐好，是他的控制能力較好。... 我一直有這種感覺，我們只是協助跟一點點的幫忙他走這個路，可是這個路能不能走的好，是他自己成長的因素啦。

Yes, I have read about their changes, but I feel education in fact is not the main reason of their progress. I feel growth is an important factor to make them move forward, especially for young children. That is to say, he grows up and he has better abilities to control himself. It is not because I ask him to sit still. Rather, he has better control of himself. ... I always have this feeling that we only give assistance and a little help for him to walk this way. Yet, whether he can walk well or not depends on his own growth.

(2nd interview with Miss Amy-1, 6/06/07)

Accepting everyone's differences and doing one's best. Miss Amy had more than ten years of experience in teaching young children with disabilities, so she said she was very familiar with them and tried to appreciate their differences. She thought it was natural to have people with high abilities and limited abilities in this world. She also

shared her ideas to the parents and encouraged them by telling them that each would be happiest when everyone did the work that was suitable for their own ability and when each did his best. Miss Amy described:

因為我已經教十幾年了，其實我很熟悉他們。... 我的彈性都蠻大的啦，我不會不喜歡他們，我也不會說討厭他們，甚至於我會盡量去欣賞他們，然後我會去教育家長說，人本來就有不一樣啊，雖然說他進步慢或者是他有什麼特殊的狀況，可是要去欣賞小孩，就是去發掘他的優點長處。我很開心能帶到他們啊。... 我是覺得說，去接納他啦，接納他的好跟不好的地方，優點的部分就幫他加強，缺點的部分就防止他再惡化下去，或者是說能夠推他到他的極限就好了。

I have taught children with disabilities for more than ten years; I am very familiar with them. ... I am very flexible; I will not dislike them, nor be adverse to them. I even do my best to appreciate them. And then, I would educate parents to understand that people are different by nature. Even though they make achievements slowly or they have special situations, we need to admire the children and uncover their strengths and virtues. I am very happy to teach them. ... I feel that to accept them—I accept both their good and bad. I help them to enhance their strengths and avoid making their weaknesses greater. Or to push them to reach their limits is all that I can do.

(2nd interview with Miss Amy-1, 6/06/07)

Miss Amy said she tried her best to give different instructions to the children according to their differences. She mentioned she used to be very nervous regarding the vast differences among the students. However, after so many years working with children with disabilities, she realized that in this society there are people with different intelligence levels. So she thought that no matter who you are you can do your best and then you will be very happy. Miss Amy explained:

我是盡量是按照孩子他的不同的差異性[來教]，以前我會在意說這個孩子跟人家差異太多，差異太大的時候，我也會很緊張，可是我覺得我漸漸教了這幾年下來，你緊張也沒有用，孩子的能力真的有不同。... 所以我們也不要一直去責備小朋友啦，就是他的能力能做到什麼事情，就鼓勵他去作最好的

就好了。身心障礙跟普通班[的學生]都一樣啊，我是覺得這樣子孩子他也快樂，那照顧者也會很開心。這個社會上本來就是有高有低的人，高的人就做高的事，低的人就做比較低階層的事，但是你只要願意去作好，負責任就好啦，不要去傷害別人，那你自己活的很快樂，這樣子就夠啦。

I try my best to give various instructions according to children's differences. In the past I cared so much about the great differences among them. When the discrepancy was so big, I would be very nervous as well. But after teaching those years, I found it was of no use to be nervous for children indeed have different intelligence levels. ... So, no need to blame the children. That is, we encourage them to do the work that they can do with their best. It is the same for children with disabilities and for general developing children. I feel that the child will be happy and the care-giver will also feel very glad. The fact is that people have high and low abilities in this society. People with high abilities can do work at harder and higher levels and those with low abilities do work at lower levels. You can live very happily only if you are willing to do it, take responsibility and do not hurt others. That's enough.

(2nd interview with Miss Amy-1, 6/06/07)

Miss Betty

Miss Betty was a general education teacher since 1989. She studied infant & child care in a vocational high school, and then she studied early childhood care and education at a teacher's college. She had 40 credit hours of special education training from 2001 to 2003, and Miss Amy was her classmate at that time. After she completed her special education training, she came to teach at this preschool/kindergarten special education class in Freedom Elementary School since 2004. She had 15 years of general education teaching experience and 4 years in special education. Her daughter was a physical therapist. She learned physical therapy such as massage from her daughter and the therapists of the specialized team. Miss Betty revealed:

我本身高職是讀幼保的，後來再去嘉師修教育學分班，然後再讀師專部，我是讀暑期部的。對!是幼教，師專部分畢業完後，中間隔了六年，再去修大學部的學分，這當中大學學分修完後，後來剛好有一個機會，然後跟另外一個老師[Miss Amy]一樣，我們去修特教學分，就在這當中，修完後，我才真的進入特教領域。

I studied infant & child care in a vocational high school, and then I took educational extension education classes at Chiayi Teachers' College. Later, I took summer classes at Chiayi Teachers' College. Yes, it is early childhood care and education. I graduated from college, and after 6 more years, I attended the university to get my Bachelor's degree. After I finished my bachelor's credits, I had an opportunity to take special education credits with Miss Amy. After I completed my study in special education, I was then involved in the area of special education.

(1st interview with Miss Betty, 2/27/07)

Miss Betty had more than 15 years of teaching experience in general classes. She mentioned that she had an interest in teaching children with special needs. Therefore, she applied for a transfer to this preschool/kindergarten special education class. She recalled her teaching experience as the following:

我的經歷：之前在幼教部份，五年是在私立幼稚園，然後有三年的是在代課，然後才考上學校附設幼稚園 ... 在Hope國小5年，因為小孩子[就學]的關係，我就自己請調到岡山Peace國小，又待了10年，92年剛好修完了特教學分班完，因為我本身對特教領域很有興趣。...我跟Miss Amy是同班同學，那時我想走特教的這個條路走走看，提出調動，剛好這個班級有缺，原本的老師也調出去，我進來這個班是第四年。

My working experiences were: I taught general early childhood classes for five years in a private kindergarten, and then I was a substitute teacher for three years. Then, I passed the exam and taught the kindergarten, which belonged to a public school. ... I stayed in Hope Elementary school for 5 years. I transferred to Peace Elementary School at Gungshan due to my child's education and stayed there for 10 years. In 2003, I completed my study of special education in an extension educational class because I was interested in special education. ... Miss Amy and I were classmates. At that time, I was trying to teach special education, so I applied for a transfer. This class happened to have a position open because the prior teacher also transferred to another school. And this is my fourth year teaching this class.

(1st interview with Miss Betty, 2/27/07)

Instruction for Verbal Children with Mild to Moderate Developmental Disabilities

The high group that is group A consisted of the young children with verbal and with mild to moderate developmental disabilities. The lesson plans Miss Betty wrote had a focus on cognition with the use of operation objects and playing games. Miss Betty talked about her design:

那高組就偏向認知比較多。...有設計到用操作方式，盡量用操作方式，讓他知道這個數量問題，用玩的遊戲方式，你一個，我一個；你一個，我再一個，這樣讓他慢慢知道「一個」是什麼意義，玩完後他們知道，是這樣的數量。然後請他說，「分類」同樣的東西分在一起，是同樣的「形狀」分在一起，「顏色」分在一起。

The high group tended toward cognition. ... I designed the activities, which allowed the children to operate the objects. I tried to use a lot of operations for children to know the concept of quantity. Through playing games, such as “you get one, I get one; you get one more, and I get one more,” the child is given chance to gradually know what “one” means. After playing games, they will know about quantity. Then, I asked them to sort the same objects in groups. The objects of the same “shapes” are put together. The objects of the same “colors” are put together.

(1st interview with Miss Betty, 2/27/07)

Miss Betty thought playing games would be helpful for the young children to develop the concept of numbers. Hence, regarding the instruction procedure for the high group, Miss Betty explained that she usually started with playing games and followed with counting numbers. Later, she took number cards to let the young children play matching games, which would allow the young children to understand the notion of quantity. She expressed:

我是用這種遊戲方式，那剛開始可能他們的「數字概念」沒有。我只是先跟他玩，玩完後就開始用唱數的，我開始把數字拿出來，用唱數的，唱完數字後，數量開始配合，等他們配合完後，我們就開始玩遊戲了。我現在把數字牌拿出來，這是多少，譬如說我是二，我拿兩個[小積木]，那你要拿幾個[小積木]？他也跟我拿兩個[小積木]，用比較方式來玩。

Playing games is a strategy I used. At first, they did not have the concept of numbers. I only played with him first. After playing a game, we started to count. I took out number cards and counted. After counting, we matched the quantity and the number. After matching, we started to play games. I took out the number cards and asked the students how many the card shows. For example, mine is 2, so I took two [little blocks]. I asked the student, how many [little blocks] do you need to take? He would follow me and take two [little blocks]. We played by making comparisons.

(1st interview with Miss Betty, 2/27/07)

Instruction for Nonverbal Children with SMDD

Miss Betty assumed children in the low group had extremely poor abilities. So, for children with SMDD, who were placed in group B that is the low group, Miss Betty did not design cognitive lessons for them. She gave them more tactual and audio stimulation such as giving them massage and letting them listen to music or letting them feel their body actions. Miss Betty described:

低組的小孩子，他[們]的能力是完全不行，我先安排按摩，再來是聽音樂，讓他[們]操作樂器感受打出聲音，打樂器是我們抓著他[們]的手去敲打，讓他[們]去感覺，這個感覺，這個動作，有聲音刺激。

The capabilities of the students in the low group could not do it at all. I would give them massage first and then have them listen to music, and let them play with musical instruments to feel the sound made. We held their hands to play instruments, which allowed them to feel, using this feeling and this body action with sound stimuli.

(1st interview with Miss Betty, 2/27/07)

Miss Betty explained that children with SMDD might have visual problems but they might have good audio senses. Even though the children might not speak up, Miss Betty still kept talking to them and continued giving them the same music to let them gradually get familiar with the sounds. She clarified:

因為他們可能，在視覺上都有問題，可能不是很好，但他們的聽覺非常好，他[們]可以聽的出來這個是什麼聲音。... 像我們這樣子在教數字方面，是我們唱歌給他們聽，或是這樣子念123，就唸給他[們]聽而已，可是他們沒

辦法跟著仿說。... 用聲音來刺激，用聲音刺激比較多。... 每天同樣的音樂一直放，原本不喜歡音樂聲音，他[們]可以慢慢去接受，就變成他[們]熟悉的音樂。

They might have vision problems, but their sense of hearing is very good. They can distinguish kinds of sounds. ... Regarding teaching numbers, we will sing songs to them or count 1, 2, 3. for them, but they cannot imitate speaking. I use sounds to stimulate them. I use more sound stimulation. ... If I give them the same music everyday, they will begin to like the music, which they disliked in the beginning. They can accept it gradually, and finally it becomes familiar music.

(1st interview with Miss Betty, 2/27/07)

Various sounds not only provided audio stimuli but also provided the information of daily routine for these young children with SMDD. Miss Betty explained that in the morning when the children came to the class, the teachers would greet them. Thus, this allowed them to become familiar with teachers' voices as well as realizing they were in school. When the school was over, their parents would come to pick them up. When their parents came to the classroom, they would talk to the teachers or call the children's names. Their parents' voices also informed the young children that it was time to go back home. According to Miss Betty, when the children laughed, it not only indicated that they were familiar with the sounds but also showed that they knew what to do next as she illustrated their daily routine:

每天來第一件事情，他們一來我們就是跟他們打招呼，他們就知道這是老師的聲音，讓他們知道，喔！你來[學校]了，他們一進來[教室]聽到我們的聲音就會笑了，因為他們知道這是老師的聲音。回家[的時間到了]，那他們的爸爸媽媽一來，爸爸媽媽會[和老師]講話，他們就知道要回家的時間到了，因為爸爸媽媽已經來了。

Everyday, the first thing was greetings, when they came. They knew that was the teachers' voice and it let them know, "Oh! You came to school." They entered [the classroom] and they smiled while listening to our voice because they knew it was the teachers' voice. When it was time to go home, their parents came and spoke to the teachers. They knew it was time to go back home because their parents came.

(1st interview with Miss Betty, 2/27/07)

Besides audio stimuli, the tactile stimuli seemed necessary for the young children with SMDD. Miss Betty explained that massage helped the children reduce their sensitive feelings, which would facilitate their physical therapies as well. Miss Betty told me she gave the young children with SMDD a massage, so I asked Miss Betty if she learned to massage previously. She said, “Yes, I learned it. My daughter is a physical therapist. The therapists of the specialized team gave me instructions as well.” Children with SMDD need massage to help reduce their sensitive feelings and Miss Betty had learned the skills. Therefore, she involved massage activities in her individual instruction for these young children with SMDD in group B, the lower level group. She explained:

他[們]還是比較需要肢體按摩，做口腔上的按摩。... 那如果說[開學了]開始上課了，因為我們在這邊[教室裡]也有做按摩，[他們]到醫院去[做復健治療]的時候，醫生就說“你的敏感度減弱了喔”。有人在幫他[們]按摩，所以對那種[觸覺]敏感度就減弱很多。

They need more body-oral massage. ... When school began, we massaged them in class as well. When the children went to the hospital for rehabilitation therapy, the doctor would say, “You are less sensitive.” Therefore, if someone massaged them that would greatly decrease their sensitive feelings.

(1st interview with Miss Betty, 2/27/07)

Perspective and Feelings in Working with Children with Disabilities

Miss Betty had taught general classes for more than 15 years before she taught a special education class. According to her, she thought it would be suitable for her to use the same teaching materials that are in the general class for this special education class, and only need to adapt her teaching speed by slowing down to teach these young children with developmental disabilities. However, she felt that her lesson plans did not work very

well for this special education class during the first year of her special education

teaching. Miss Betty recalled the beginning of her teaching in this special education class:

剛開始的時候，開始接觸這個班級，說真的我是以普通班的老師的身分在接觸，一開始我第一個想法就是說我要把教學的速度放慢，因為班上小朋友跟普通孩子狀況不一樣，我想把它放慢。可是第一年我發現到，我放慢速度還是太快，那我發現到我設計的課程，好像感覺用不上，我已經覺得很簡單了，跟普通班的孩子來比，算是簡單了，當我用下去的時候，我才發現到，不行，還要比我原來的設計還要更簡單，速度也不能快。

In the beginning, when it was the first time for me to approach this class, I approached it with my status of a general education teacher. To tell the truth, my first thought was to slow down my teaching because the students in this class were different from those in general classes. However, after one year, I found my teaching was still too fast to fit the students' abilities. At that time, I realized that my lesson plans could not fit the students' abilities. I thought they were very simple enough when compared with those for general classes. When I used these lesson plans, I found they did not work for these students. I had to redesign the lesson plans to be simpler than the original ones and my teaching could not be too hurried.

(1st interview with Miss Betty, 2/27/07)

Perspective and Feelings in Working with Children with Disabilities

The perspective and feelings in working with children with disabilities for Miss Betty were grouped into three themes. They were (a) different instruction based on children's disability levels; (b) learning from the children with disabilities; and (c) every simple action was important for children with SMDD.

Different instruction based on children's disability levels. The instruction of Miss Betty for children with disabilities varied according to the disability levels of these children. For children with SMDD, she focused more on giving them many kinds of stimulation. Miss Betty clarified:

恩::其實我會依照他的那個障礙類別去作區分，那所教的或是說所引導的方向會有所不同，著重可能會不同。極重度的要用極重度的方式，他們比較著

重於肢體上的按摩還有一些刺激，聲音的刺激，燈光的刺激。那其他的類別，就依照他的輕重度的程度來作設計的教學方式，所以說不同的類別不同的程度所教的方式當然會不同。

Um:: actually I differentiate my teaching based on [their] disability categories. Then my teaching or guidance will be different. My emphases may be different. For children with profound disabilities, I would use the techniques which fit them. They may focus more on body massage and some stimulation such as audio stimulation and light stimulation. While with other categories of disabilities, I would design lesson plans based on [their] disability levels. That is to say, with different categories and various levels, my teaching, of course, would be different.
(1st interview with Miss Betty, 2/27/07)

Learning from the children with disabilities. Regarding being a special education teacher, Miss Betty felt that she was still a student and that she could learn from the children with disabilities. She mentioned:

其實在他們[特殊學生]身上我學了蠻多的，因為說起來他們是老師啦，我感覺還是學生，因為我要從他們身上學到我們一般人所看不到那個問題。

Actually, I have learned a lot from these children with disabilities because they are in fact teachers. And I feel I am still a student because I have to learn from them to find the problems that other people cannot see.
(2nd interview with Miss Betty, 6/15/07)

Every simple action was important for children with SMDD. Miss Betty explained that she found some movements that were very easy and simple for typical developmental children might be very difficult for children with disabilities. Therefore, she thought each simple action would be important for children with disabilities, especially for children with SMDD. Miss Betty pointed out:

其實我們可以在他們身上看到說，他們所需要的在哪裡，那這些所需要的，我們平常可能一般的普通孩子，表現的都很輕而易舉，可是我在他們身上發現到，有些動作對他們來說，非常非常的難，甚至沒辦法做到。... 最簡單的一個舉手，他們真的作不出來，... 可是我們覺得一般來說這個很簡單啊。但是他們呼吸上，一般來說我們都覺得呼吸沒有什麼感覺啊，就是這樣

子呼吸啊，可是對於極重度的孩子來說，呼吸對於他們來說也是一個很重要的一個課程表現。

Actually from them, we can find what they need. These necessary actions for general children would be very easy for them to do, but I found from them some movements were very difficult and that they could not even make it. ... A simplest movement, like raising their hands, may be hard for them to do. ... But generally speaking, we think it's very easy to do, even breathing. We feel it is natural to breathe, but for children with profound disabilities, breathing is an important part of course for them.

(2nd interview with Miss Betty, 6/15/07)

Miss Cathy

Miss Cathy was a general education teacher since 1975. She studied preschool education at a teachers' college and took summer courses in special education at another teachers' college. After 3 years of teaching, she had one year's training in special education. After she finished her special education training, she taught special education classes until she retired in 2005. Therefore, she had 3 years of general education teaching experience and 27 years as a special education teacher. After she retired, she came to this class as a volunteer teacher for 2 years.

[我的]學歷是高雄女師幼師科及台南師專暑期部特教組，在高雄女師幼師科畢業服務三年以後，到台北師專師訓班接受一年的訓練，然後回到高雄縣教啓智班，已退休兩年了。... 對，是台北師專師資訓練班，受訓結束回來高雄縣設班，民國62年高雄縣第一個啓智班就設在Peace國小。... 在教育界服務的三十多年當中，只有三年教普通班，其他的時候都在特教班服務，退休的前八年擔任的是在家教育班教師[到學生家裡教導重度障礙的學生]。

I graduated from the department of preschool education at Kaohsiung teachers' vocational school and summer school at Tainan teachers' college majoring in special education. After I graduated and worked for three years, I attended one year teacher training in special education at National Taipei teachers' college. And then I came back to Kaohsiung County to teach special education in a self-contained class for children with mental retardation. At present, I have retired for two years. ... Yes, it was at National Taipei teachers' college. After I finished my training, I returned to Kaohsiung County and established a special education class in Peace Primary School. It was the first special education class in Kaohsiung

County in 1973. Until I retired, I spent most of my time teaching in special education classes and only three years in general classes. I used to be a home-education service teacher [teaching children with severe disabilities at home] before I retired.

(1st interview with Miss Cathy, 4/10/07)

Instruction for Verbal Children with Mild to Moderate Developmental Disabilities

Miss Cathy came to this class to guide young children with disabilities to draw pictures. She felt these young children lacked the abilities, communication and cognition. For children with better capabilities, she would encourage them to draw and add to the cognition of mathematics, as well as lead them to talk about what they drew. Miss Cathy expressed:

學前特教的小朋友，缺乏溝通及認知，能力比較好的在繪畫指導時就加一些認知或是簡單的數學，協助或引導他說出他在畫什麼，鼓勵他，帶他上彩。像溝通方面比較弱的[學生]，老師的協助及引導就比較多。訓練[學生]選擇彩色筆或顏料的顏色，剛開始他不會選顏色，不一定是用選的，說不定他只是把摸到的那一支筆拿起來而已，他不是選顏色。慢慢的我們如果給他一些限制，比如說選過的[顏色]不要再出現，讓他從其他[的顏色]當中去選。那到最後，他說不定就學會選擇自己想要的[顏色][的]筆了。在畫的當中多鼓勵小朋友，他會覺得自己做得很好，會繼續再努力下去，就會更有興趣繪畫了。

Young children in early childhood special education have inadequate communication and cognition. If he has better abilities, I will add some cognition or simple math in during drawing. I will help or guide him to talk about his drawing. I will encourage him and lead him to color the drawing. If children are weak in communication, I will give them more assistance and guidance. I trained them to make a choice of color pens or colors. In the beginning, the children could not choose the color and just pick up any color they touched. Gradually if we give them some conditions, such as telling them not to choose the same colors again. Finally, he knew how to choose the colors that he wanted. I gave the young child plenty of encouragement during drawing. The child would feel that he did a good job and he was willing to continue to make efforts to draw. He will become more interested in drawing.

(1st interview with Miss Cathy, 4/10/07)

Instruction for Nonverbal Children with SMDD

Young children with SMDD, who could not communicate with the teacher through their speech, could still be involved in drawing activities, according to Miss Cathy. In Miss Cathy's opinion, these young children could feel drawing by body movements. Miss Cathy described:

希望藉著學習繪畫，讓他在肢體操作中，配合老師發出的簡單音節去感覺手動筆也在動。不是說真的要他畫出些什麼，是藉由這個活動，讓他有參與繪畫學習的感覺。總之繪畫學習是看小朋友的程度來增減或調整他所需要的協助或是讓他自己發揮多少。

I hope the child can feel that, through physical movement along with the teacher's simple words, his hand moves when the pen moves at the same time. It is hard to ask him to really draw something, but only allow them to take part in this activity and experience the learning of drawing. To sum up, learning to draw is based on the child's level in order to adjust to what he needs or how to help him to bring his talent into full play.

(1st interview with Miss Cathy, 4/10/07)

Perspective and Feelings in Working with Children with Disabilities

Miss Cathy had come to teach this special education class for two years. She was a retired special education teacher with plenty of experience working with children with disabilities. She thought it was an important stage of early childhood education for both children with and without special needs to help them develop the skills necessary for success in schools and their life. She mentioned:

其實我覺得不管是不是特教或普通的孩子，學前教育階段是很重要的，尤其是特殊學生更是重要，因為這是基礎。如果說學前教育沒有好好的耕耘，國小、國中階段都會更困難。幼稚園階段的學習能夠好好把握住的話，將來效果就會呈現出來。

Actually I feel that it doesn't matter whether it's children with or without special education, early childhood education is a very important phase, especially for young children with special needs because it is the basic stage. If efforts are not made to cultivate this in the preschool period, it will be more difficult at elementary and middle school phases. If a child learns well during kindergarten, it will have good efficacy in the future.

(2nd interview with Miss Cathy, 6/13/07)

When Miss Cathy talked about her perspective and feelings in working with children with disabilities, three themes came out from her opinions. They were: (a) I believe each child can be taught. (b) It does not matter what disabilities they have; it matters how we can help them. (c) It is important to find resources to supplement the teacher's limitations.

I believe each child can be taught. Miss Cathy believed every child can be taught. If the child could not learn well, it might be the problem of the teachers and parents. So, we had to try our best to help them. Miss Cathy explained:

我比較希望先了解他的程度跟優缺點再進行教學，製作一些教具跟輔具，來達到教學的目的。我相信每個孩子都是可以教的。如果孩子教不好還是學不會，其實要檢討的是家長跟老師，可能是他不了解我們的遊戲規則，所以我們要想盡辦法讓他知道在這裡要做什麼事。至於他的表現合不合乎我們所理解的方式沒關係，只要我們教他的，他有反應出來，用什麼樣的方式都無所謂。

I would rather first understand the child's capability level, and his strengths and weaknesses before I teach him. I would make some teaching materials and assistive devices for teaching to reach the child's educational goals. I believe that every child can be taught. If the child is hard to teach or does not learn well, actually, the parents and teachers have to critically look at themselves. The child might not understand our rules of the game, so we have to let him know what to do in here. It does not matter if he performs appropriately consistent to our understanding, only if he can react to what we teach him. I do not care in what ways he reacts.

(2nd interview with Miss Cathy, 6/13/07)

It does not matter what disabilities they have; it matters how we can help them.

Miss Cathy reflected that we should not label a child harshly. She emphasized that we needed to understand the children. She also pointed out that she did not mind what kind

of disabilities children had but was concerned more about how we can help them. She highlighted:

有的孩子表現出衝動的行為，老師以為他是過動，經過了解跟引導，說不定是因為在家裡比較缺乏文化刺激，或是他學到的東西他不知道怎麼去應用，我覺得不要剛接觸尚未深入了解，就認定他是怎麼樣的孩子。其實他是什麼樣的孩子或哪一類型的孩子不重要，我們可以幫他什麼比較重要。

Some children have impetuous behaviors, and the teachers might assume they are hyperactive. However, after understanding and guiding the child we may find out that it is just due to lack of culture stimulation. Or he may not know how to use what he has learned. I feel we should not label the child by first impressions and presume what he is before you are familiar with him. Actually it is not important who he is or what label this child has; it is important how we can help them.
(2nd interview with Miss Cathy, 6/13/07)

It is important to find resources to supplement the teacher's limitations. Miss Cathy stressed the limitation of a teacher. Hence, a teacher needs to extend his/her social relationships to build supportive resources. And this resource could be used to help children with disabilities. Miss Cathy pointed out:

老師的能力畢竟也是有限，而老師的人際關係是需要去擴展及運用，你要怎麼樣去尋求資源，有誰可以幫你的忙是很重要的。我還沒有退休之前，擔任在家教育老師時，就尋求過Miss Betty他們幼稚園小朋友的協助，我請Miss Betty班上的小朋友和[我的學生]他一起互動，讓小朋友帶著他玩，從中引導[他]學習。

After all, a teacher has his limitations, and the teacher should expand and utilize his social relationships with others. You need to find the resources and see who can help you. It is an important effort. Before I retired, I was a home-education service teacher, I asked for help from the children in Miss Betty's class. I invited the children to come to interact with my student and allowed the children to play with him so that he could learn through their interactions.
(2nd interview with Miss Cathy, 6/13/07)

Above were the profiles of the three teacher participants regarding their education and training background, as well as their teaching experience. In addition, I presented the

themes that emerged from their interviews about their instruction plans and perspectives and feelings for young children with disabilities. In the following, I will portray the profiles of student participants in this study.

Student Participants

There were four children in this class who participated in this study. They were Kevin, David, Tom and Julie. Among the four, three of them were in group A which was for the children who function better than group B. Kevin, David and Tom were in group A. Julie was in group B. They also referred to the groups as high group and low group. The following offers basic information of these four children, which were constructed with data based on teachers' interviews, students' documents and my field notes.

Kevin

Kevin, a 6-year-old boy, was a child with Autism. He had attended this class for one year. He could follow simple directions from adults. Most of the time, he was quiet and seldom made contact with others or made eye contact with others. He could imitate what others said and sometimes made abnormal sounds or screamed, but it was difficult for others to understand him. However, he could do the things that he got used to doing without reinforcement. Miss Amy said:

Kevin 他一定會講，他- 就是仿說啦，... 叫他仿說他會乖乖的仿說。... Kevin他還蠻守規矩的，他還蠻願意去做的，他還不太需要說我用這種[獎勵]方式他才需要做，只要他已經養成習慣的東西他都會作啊。

Kevin would talk by only imitating what others said. ... If you wanted him to repeat after you, he would. ... Kevin would follow the rules. He was willing to do the things that he got used to and do it without the teacher's reinforcement.

(2nd interview with Miss Amy-2, 6/15/07)

Kevin was good at recognizing the words and remembered the words very quickly. However, he would insist on what he thought. Miss Amy said:

他很厲害的是他對於那個字體的記憶非常的快速。... 但是他有個地方是如果他認定了那個字是這樣，就沒有辦法改變了。比如說我教他「白鵝」，他一定是放「鵝白」，那他媽媽我有跟她講說她回去再幫他看看能不能再回復得回來，結果他媽媽說不行，在家裡也是這樣子。

He is excellent in recognizing the words by quickly memorizing the characters. ... Yet, if he thought the characters must put in a certain order, then he would insist on it and it would be difficult for him to change. For example, I taught him “white goose” and he decided that it should be “goose white”. I talked to his mother to see if she could help review it at home and help him to reverse it. But his mother said that it was impossible for him to change. He made the same order at home too.

(2nd interview with Miss Amy-1, 6/06/07)

Kevin used to scream, cry or hit others to express himself. He sometimes used laugh to display his nervousness. The first time I went to this special class for an informal visit, I sat by Kevin during Miss Betty’s small group. Kevin laughed. I asked, “Why are you so excited?” Miss Betty told me that he is not excited, he is a little nervous because there is a stranger in the classroom. She told me I was the stranger, so Kevin laughed to hide his nervous feelings (Field notes, 3/16/07).

His mother came to this class every day, and sometimes she joined the class activities. When teachers could not understand what her son’s actions or words were, she could help to explain them. It was my first informal visit to this class. At the second group time, they changed the schedule to lead the students outside to practice dance again. Kevin could not adapt to the change; he cried and held onto the teacher. He pushed very hard so that Miss Amy fell down on the ground. Kevin's mother laughed and told to the teachers they did not tell him early enough of the change. So, he thought this time

they should have another group time or go home. It is his normal reaction when something changes (Field notes, 3/16/07). Miss Amy commented:

Kevin我也剛開始，沒有他媽媽的解釋幫忙喔，我真的要花更多的時間去知道他爲什麼尖叫，因爲我們以前帶的自閉症小孩沒有固執到這麼嚴重的，他算是我帶過比較有他自己想法的人，他是固定要怎麼樣，然後我必須要問很久啊。

In the beginning, without Kevin's mother's explanation I might spend much more time to understand the reasons of his screaming. We had not had children with autism who were so obstinate. He is the one who has his own ideas more than anyone else that I have taught. He insisted on what he wanted to do, and I had to spend a long time to figure out what he meant.

(2nd interview with Miss Amy-2, 6/15/07)

Miss Betty mentioned that Kevin would pull her hand or make sounds to show his intention instead of saying it. She had to figure out from his prior actions and guess what he meant. Miss Betty said,

像我們自閉症的小孩子，他不會用講話的，可是他會拉著你的手，或者是發出聲音，這時候我們就看看之前他作了些什麼動作，那我們去判斷他之前可能發生什麼問題，然後用之前的動作來回答他發生的那個題目，或是他要敘述的意思。

Like our autistic child, he did not speak up, but he would pull your hands or make sounds to express his intention. At that time, we would see what he did beforehand to determine what was wrong. And then, reply to him based on what we figured out.

(2nd interview with Miss Betty, 6/15/07)

Miss Amy realized that Kevin's screaming was related to the noisy environment. He would feel anxious in this environment and so then he would scream. So Miss Amy tried to help Kevin reduce his angry feelings by separating him from Tom, the noisemaker, who sat next to him. Miss Amy said,

Kevin 的部分，我們有發現到他，其實他喜歡的是比較溫暖和諧的那種學習環境吧，因爲Tom加進來就變的很吵鬧啊，啊變得很吵鬧就他的情緒也會上

來，有時候他就一看到Tom坐在旁邊他就會焦慮會尖叫，會推他[Tom]這樣子，所以我們有發現就把他們錯開位子啊，不讓他們坐在一起，看能不能讓他減少那個不喜悅的那種感覺。

Regarding Kevin, we found that he liked warmer and more peaceful learning environments. When it became very noisy after Tom attended our class, Kevin tended to have a bad mood. Sometimes, Kevin would become anxious, scream, and push Tom once he saw Tom sitting next to him. So we separated them to see whether this would help him emotionally or not.

(2nd interview with Miss Amy-1, 6/06/07)

Both Miss Amy and Miss Betty mentioned that actually if you told Kevin what would happen next or told him of any change in advance, he would accept the different arrangement. Miss Betty said,

那如果[活動]有所不同的時候，事先就要跟他[Kevin]告知，這個動作有作出來，接下來，課程安排活動都很OK。

You have to tell Kevin beforehand if the activities will be different from the daily routine. And then he will be all right for the rest of the class activities.

(2nd interview with Miss Betty, 6/15/07)

David

David was a 5-year-old boy with moderate mental retardation (MR). He attended a general kindergarten before he transferred to this class one year ago. According to Miss Amy, David was more willing to attend this special education class in Freedom Elementary School than in the previous general class because he was accepted in this class. Miss Amy described:

我是覺得他就是從他以前在普通班的時候，他[的]老師有來跟我們就是講一些他的狀況，那我是覺得他以前在普通班，他媽媽說他[經常]會跑出去[教室]，他不愛上學，因為他[的老師]沒有辦法注意到他。他媽媽問他說：「你喜不喜歡來Freedom 國小，還是說你要回Hope國小?」，他會說他要來Freedom國小。然後[他的媽媽]問了兩次[這個問題]喔，[他都給予同樣的回答]，而且一開學的時候他就很高興了，因為在這邊[特殊班]可能大家都有接納他吧。

His prior teacher told us his performance in the general class. While he was in the general class, his mother said he ran out of [the classroom frequently]. He did not like to go to school because his teacher could not pay much attention to him. His mother asked David, “Do you like to come to Freedom Elementary School or do you want to go back to Hope Elementary School?” He answered he wanted to come to Freedom Elementary School. His mother asked him [this question] twice and got the same answer. Furthermore, he was very happy when school began. It may be because we all accepted him in this [special education] class.

(2nd interview with Miss Amy-1, 6/06/07)

David could say some words but not many. Miss Amy said, “He did not say much, just very short utterances.” He could follow adults’ demands to say some simple words such as “goodbye” and “thank you”. However, his speech was difficult to understand for others due to his pronunciation problems. He usually cried, ran away, or hid in a corner to express his dislike or frustration. He liked to get others’ attention and could not stand when others ignored him or talked to him with negative words. He preferred to play with adults rather than with peers according to Miss Amy:

David的話你就是講一點點負面的話，他就整個人都崩潰了，他就覺得你不喜歡他了，所以他就會沮喪或者是抗拒做什麼事情。... 他喜歡人家關注他，你看他下課，閒閒他就過來給你抱一抱，他來找你玩，他來會叫老師，要來跟你玩這樣子。

David could not stand any negative words to him. He would just feel crushed for he believed you disliked him. Hence, he would act downcast or reject doing the things that you wanted him to do. ... He likes others’ attention. During the break he would come to you and give you a hug. He came to play with you. He came to call the teacher and wanted you to play with him.

(2nd interview with Miss Amy-1, 6/06/07)

Regarding David’s cognitive learning, he sometimes performed well in memorizing the subjects that the teachers just taught. However, he would not keep memorizing his learning for a long time. Miss Amy said,

他有時候短期記憶還不錯勒，就是馬上問他，他會對，可是長期下來你再問他，他可能就忘記了，全忘光了這樣子。

He sometimes had a good short term memory, that is to say, if you asked him immediately after he learned, he would answer it right. However, after a period of time, if you asked him again, he might totally forget.

(2nd interview with Miss Amy-1, 6/06/07)

David did not follow the class rules very well, according to Miss Amy. She thought it was necessary to insist on David following the class rules. She expressed,

那[我對]David也會盡力[對他]說，他對於[遵守]一些這種常規[例如]要坐好，他也慢慢的知道說，我是一定會要求的啦。

For David, I would try with efforts to tell him to follow the class rules, such as sitting still. Gradually, he would become aware that I insisted on these requirements.

(2nd interview with Miss Amy-2, 6/15/07)

Tom

Tom, 5 year-old boy, was diagnosed as attention deficit hyperactive disabilities (ADHD) and mixed mild developmental delay and mild mental retardation (MR). Tom's parents were divorced. He lived with his mother, grandparents and uncles and they all spoke Taiwanese. He transferred to this class this semester three weeks after the class began. Tom's mother sent Tom to school but seldom entered the class except when the teachers wanted to talk to her. Tom could speak but did not use normal language, as Miss Amy described:

他第一天來的時候，他每一個字每一個句子講出來全部都是髒話，就是很奇怪的髒話，... 那一種聽起來好像很古老以前社會的那一種髒話，跟現在的其實已經沒有在講這些東西了。

The first day he came to this class, every word he spoke was a bad word. It was very strange language. ... That sounded like the language that was used in an ancient society and not used in current society.

(2nd interview with Miss Amy-1, 6/06/07)

He could use simple words to express his desires, but most of the time he used hitting, pushing and screaming as his communication tools due to his hyperactive behaviors. Miss Amy stated:

[Tom]到處打人還有撞牆，那是因為他坐不住了。他不喜歡[寫字]，對，他不喜歡靜下來，所以他喜歡跑來跑去啊，玩東西這樣子啊。

Tom hit people and walls due to the fact that he could not sit still. He did not like to write. Yes, he did not like to be quiet; he liked running everywhere and playing.

(2nd interview with Miss Amy-1, 6/06/07)

To deal with Tom's challenging behaviors, Miss Amy wanted him to leave and do a quiet task whenever he did something wrong. She expressed:

[Tom]做錯事需要離開去做一件安靜的事，例如運筆練習或寫字，就是讓他知道說，你剛才推人是不對的，你罵人也不對，你搶人家玩具也不對，那你就必須去做一件安靜的事情。

Tom must leave and do a quiet thing such as to practice drawing lines or writing Zhuyin Fuhao (national phonetic symbols) whenever he did something wrong. That is in order to let him know that it was wrong to push others, to yell at others, or to grab others' toy. So you have to do a quiet task.

(2nd interview with Miss Amy-1, 6/06/07)

Tom liked to get together with others; otherwise he would be very nervous.

According to Miss Amy, "we observed that he liked to be with group members, and then if you let him alone do the things that were different from others, he would be very nervous." After Miss Amy realized how much Tom loved the company of others, she used it to attract Tom to come to class. She stated,

我們都用，你[Tom]喜歡跟團體生活的這個特點，然後我們就跟他說：好啊！你在這邊，我們都去上課，我們都不要等你；或者是類似這樣的方式，就是吸引他過來[上課]啊。

We used Tom's desire to get together with the group to attract him to come to class. We would tell him, "OK! You stay here, and we will have our class. We will not wait for you; or some similar address like this in order to draw him to the class.

(2nd interview with Miss Amy-2, 6/15/07)

Instead of forcing Tom to obey the teachers' orders, Miss Amy found it was important to build a good relationship with Tom for if Tom liked the teacher, he would be willing to listen to her. Miss Amy explained:

我會發現說硬碰硬，也許啦，剛開始他會知道說這個老師力氣很大，她很堅持，就讓他瞭解這個而已，但是我是那種覺得還是要用方法，然後跟他建立關係，這個很重要，只要他喜歡妳，他願意聽妳的話，妳在跟他講什麼都很好。

I found in the beginning I forced him to obey my rules and let him understand I have much strength, and I insisted on him following my commands. Yet, I felt I still needed to use another method instead of forcing him to obey. It was important to build relationship with him for if he liked you, he would be willing to listen to you. Thus he would follow what you told him to do.

(2nd interview with Miss Amy-2, 6/15/07)

Miss Betty also mentioned that Tom was not willing to join the class because he did not feel comfortable sitting quietly during group activities. Thus, Miss Betty made much effort to attract him to the class. Miss Betty stated:

他的那個要上課之前的那個情緒，只要一聽到上課就整個情緒又開始拒絕去坐在那個地方，他安靜地坐在那邊對他來說很不舒服的一個動作。可是每次要拉他去上課，就是要想盡辦法就是說引起他的注意或是說引起他的那種想要過來的想法，就是我們要用很多種方式去吸引他誘惑他，他才會過來，就是他對我來說是個蠻大的挑戰。

Once he was aware that the class would begin, he would have a bad attitude and refuse to sit at his seat. To him, it was a very uncomfortable action to sit quietly. Thus, every time I wanted to pull him to the class, I needed to try a lot of methods to attract him to be willing to come to the group. He was a big challenge for me.

(2nd interview with Miss Betty, 6/15/07)

Julie

Julie was a 6-year-old girl with severe multiple developmental disabilities. She came to this school since she was 4 years old. She was nonverbal and non-ambulatory and usually lay on the mat or sat in her wheelchair. She could eat with her mouth and her right hand and right foot were dominant. She used eye gaze, facial expression, hand movements, head/body movements, cries, vocal sounds or groaning to interact with others. Her babysitter, Mrs. Dora, accompanied her everyday and sometimes helped the teachers to deal with class activities. Julie lived with Mrs. Dora during weekdays and came back with her parents during weekends. Mrs. Dora's husband and Mrs. Dora brought Julie to do physical therapy in the morning from 8:00-9:00 from Monday to Friday and then Mrs. Dora would come to school with Julie. Julie's father came to pick them up and go back to Mrs. Dora's house at noon. In the afternoons, Julie had other therapies such as speech and occupation therapies.

Julie used cry and laugh/smile to express her moods, for example Miss Amy said, "when she is happy, she will laugh and make sounds such as "a", "u"." However, she might only be "playing with sounds. If she happened to make a sound, she would continue to play her voice." Some funny sounds would make Julie laugh, as Miss Amy said:

她會喜歡聽那種很俏皮的聲音，撲::或者是叭撲::，或者是什麼類似這樣子蹦蹦:: (的聲音)，她就會笑得很開心，她的笑跟玩是連起來的。

She likes listening to funny sounds such as "bu:" or "ba bu:", or something similar to "beng, beng, beng." She will laugh joyfully. Her laugh is connected with play.

(1st interview with Miss Amy, 2/27/07)

According to Miss Amy, Julie did not have many conscious reactions to the environment. One obvious response was when she saw her father:

你說認人啊，有意識的那一種，指認反應是比較沒看到。有啦，看到她爸爸，那個就很明顯，很放鬆，就笑這樣子。

I did not find that she consciously responded much to stimuli such as to recognize people purposely. Yet, when she saw her father, there was an obvious reaction. She was very relaxed and laughed.

(1st interview with Miss Amy, 2/27/07)

Past experience would influence her to distinguish others' good intentions, such as she cried when she went to the hospital for physical therapy. As Miss Amy portrayed:

她應該是感覺，她應該不是懂，她是知道那是善意的，不是惡意的，是好的，不好的，舒服的，不舒服的，她應該分辨的出來。因為她去醫院，一定哭，醫生一摸她的手跟腳的時候，她就一定哭。啊她來這邊，我們弄她，她就不會，因為我們這邊[在教室裡按摩]沒有那麼用力，她不會痛，她沒有那個壞經驗，所以她知道來這邊感覺[教室裡的]氣氛的時候，她就不會哭。

It may be a feeling, not understanding cognitively. She knows whether it is a good intention and not a bad intention. She can distinguish good from bad, and comfortable from uncomfortable. Because every time she goes to the hospital, she cries. When the doctor touches her hands and feet, she cries. In here, she will not cry when we touch her. It may be because we do not massage so hard, so she doesn't feel pain. She didn't have a bad experience here. She could feel the environment, so she did not cry.

(1st interview with Miss Amy, 2/27/07)

Both Miss Amy and Miss Betty mentioned trying to soothe Julie's uncomfortable feelings or bad moods by talking to her. For instance, Miss Amy said:

她有時候生氣啊，我有時候也會跟她講話，我就跟她說，Julie::你好漂亮喔，就是一直講正向的[話]，那種柔和的語氣，她還是會很高興。

Sometimes, when she was angry, I would talk to her. I would say, "Julie::, you are so pretty." I would keep telling her positive things in a soft tone. And then she would become happy.

(1st interview with Miss Amy, 2/27/07)

Miss Betty also clarified why Julie cried:

她可能用哭的告訴你，我現在不舒服，那這個時候我們就要讓她轉移她的不舒服。其實-她很喜歡讓人家陪著她講話，逗她。所以就是說她如果在哭的時候，你就轉移她的那個不舒服的感覺，開始跟她講話，開始逗她，跟她玩就可以了。

She might have used cry to tell you her uncomfortable feelings. At these times we would need to shift her focus on what is causing her discomfort to something else. In fact, she liked others to accompany her, talk to her and play with her. That is to say, if she was crying you could relieve her discomfort by starting to talk to her and play with her.

(2nd interview with Miss Betty, 6/15/07)

Summary

In this chapter, elaborate descriptions of contextual information are presented to the readers to better understand the findings of the current study, which are described in Chapter Five. In order to reach this goal, an overview of the class and profiles of the participants including teacher participants and student participants were narrated. The overview of the class gives a gross picture of this class, and represents the information regarding the environment, daily activities, small groups, inclusive activities and goals for the class, IEPs for the students, as well as cooperation and communication with parents. The three teacher participants portrayed not only their background information but also the themes that emerged from the three headings: (a) instruction for verbal children with mild to moderate developmental disabilities, (b) instruction for nonverbal children with SMDD, and (c) perspective and feelings in working with children with disabilities.

The personal and professional experiences of the three special education teachers in this study were quite divergent, and these experiences were reflected in their perspectives and instruction for children with developmental disabilities. Besides, along

with the various types and levels of disabilities involving mild to severe/multiple developmental disabilities of these four student participants, the teacher-student interaction during communication intervention was very influential. The contextualization of the phenomena of this chapter provided detailed background information of the multiple interactions across these 12 teacher-student dyads, which will be presented in the findings of the following chapter.

CHAPTER FIVE: PRESENTATION OF THEMES

In the previous chapter I presented the contextual picture of the preschool/kindergarten special education class at Freedom Elementary School. The three teacher participants' lesson plans and their perspectives in working with young children with developmental disabilities, as well as the description of the four student participants all provided information which gave relative understanding into the nature of communication between teachers and students during the communication intervention activities, and all were mutually influenced by such interactions. In my interviews, the teachers kept telling me about their specific experiences with each of the student participants regarding their instructions and feelings. During classroom observations, I was interested in observing the teacher-student dyad interactions and how consistently my observations reflected what I had learned during the interviews. Based on my guiding questions for this study, this chapter is set up to look into two major topics: (a) the patterns and purposes of teachers' communication instructions, and (b) the outcomes of the communication interventions. Under each topic, themes that emerged from the interviews and observations are presented.

The Patterns and Purposes of Teachers' Communication Instructions

What did the teachers do in class? What were their purposes of instruction? I was interested in how the teachers use their talk/discourses as instruction strategies/techniques to reach their intervention goals. All three teacher participants expressed they would instruct students depending on their different disabilities. For example, while they taught they would "take individual differences into consideration (1st interview with Miss Amy,

2/27/07). Likewise, Miss Betty said her teaching had varied foci, “based on [his] disability categories” (1st interview with Miss Betty, 2/27/07), while Miss Cathy said, she would “first understand the child’s capability level, and his strength and weakness” (1st interview with Miss Cathy, 4/10/07). In addition, Miss Cathy stated, “[y]oung children in early childhood special education have inadequate communication and cognition” (1st interview with Miss Cathy, 4/10/07). Even though these three teachers delivered different teaching materials using various strategies, the results showed their interactions with students during communication instruction were characterized by three main themes. They were (a) managing inappropriate behaviors by providing structure and various strategies, (b) teaching appropriate social communication skills to replace their inappropriate communication language and behaviors; and (c) code switching to improve children’s comprehension.

Theme 1: Managing Inappropriate Behaviors by Providing Structure and Using Various Strategies

In this study, the young children exhibited many inappropriate behaviors in class, such as standing up and walking away during group activities, interrupting teachers’ instructions, or putting their heads on the table and not paying attention to the teachers, making noise, and even having conflicts with peers and teachers. For these reasons, the teachers made efforts to manage the children’s inappropriate behaviors by setting up class routines, providing positive reinforcements, and giving different demands.

Setting up Class Routines

Emphasizing the class rules. Miss Amy insisted that “in class they must have class rules.” There were three class rules that Miss Amy and Miss Betty set. They were (a) to watch the teachers carefully, (b) to sit properly, and (c) to raise their hands before speaking. Miss Amy not only announced the class rules to the children but also wanted the children to repeat them and make sure the children understood the rules that they must obey. In this way she also helped the child to remember to obey the class rules. For example:

Miss Amy (→Tom): 你唸一遍哦！
你要不要？要來唸一遍，眼
睛(..) (*points to the class rules*)

Tom: 注意看

Miss Amy (→Tom): 坐在(..)

Tom: 位置上

Miss Amy (→Tom): 說話前要(..)

Tom: 舉手，有::! (*raises his hand*)

Miss Amy (→Tom): 好棒，好。

Miss Amy (→Tom): You read it one
time! Do you want to read it?
Read it one time. Eyes (..) (*points to the class rules*)

Tom: look carefully.

Miss Amy (→Tom): sit in (..)

Tom: my seat.

Miss Amy (→Tom): Before
speaking, I have to (..)

Tom: raise my hand. Yo::! (*raises his hand*).

Miss Amy (→Tom): Very good, well
done.

(Transcription #V27, 5/25/07)

In the above example, Miss Amy gave Tom verbal hints by saying the few words and the child continued to read out the last few. She also gave them physical prompts by pointing to the class rules to let the child know where the child needed to read. Tom was very active. When he answered before speaking, and the teacher reminded him that he had to raise his hand, he added yo:: and raised his hand to show he really knew how to do it. However, usually in Taiwan’s customs you raise your hand and say “yo::” only when someone calls on you. It means “I am here”. Miss Amy praised Tom after he read the class rules by saying “very good, well done.” Actually, even though Tom seemed to have

the right answer, he might not practice it very well. I observed that most of the time when he wanted to speak, he would say “I, I, I,” in Taiwanese to get the teachers’ attention.

Hence, it came to the following interaction in Miss Betty’s class.

- | | |
|---|---|
| Miss Betty (→ group): 說話前要怎樣? (..) 要怎樣? (..) 舉手 | Miss Betty (→ group): before speaking, I have to (..) have to what? (..) raise your hand. |
| Miss Betty (→Tom): <u>甘會使一直講我、我、我、我，甘會使？甘會使？</u> (..) | Miss Betty (→Tom): <u>Can you keep saying “I, I, I, I”?</u> <u>Can you? Can you?</u> (..) |
| Tom: <u>我</u> (<i>holds his hands and lifts up higher than his head</i>) | Tom: <u>I</u> (<i>holds his hands and lifts up higher than his head</i>) |
| Miss Betty (→ Tom): <u>袂使，按呢</u> 不好喔。 | Miss Betty (→ group): <u>No, you cannot. This</u> is not good. |
| Tom: (<i>lifts his two knees up and holds them with his two hands</i>) | Tom: (<i>lifts his two knees up and holds them with his two hands</i>) |
| Miss Betty (→Tom): 好，腳腳放下來。 | Miss Betty (→Tom): All right, put your feet down. |
| Tom: (<i>puts his feet down to the floor</i>) <u>立正</u> (<i>straightens his body</i>) | Tom: (<i>puts his feet down to the floor</i>) stands (<i>straightens his body</i>) |
| Tom: ‘左轉’ (<i>turns his head to look at his left side</i>) | Tom: ‘turn left’ (<i>turns his head to look at his left side</i>) |
- (Transcription #V29, 5/30/07)

In the above case, Miss Betty tried to emphasize the class rules to encourage the group, especially Tom, to obey the class rules. She told the students that they had to raise their hands before talking instead of continuing to say “I, I, I.” She code switched from Mandarin to Taiwanese in order to allow Tom to fully comprehend it because Tom could understand more in Taiwanese. Tom replied “I” in Taiwanese, as if asking Miss Betty “did you talk about me?” After she emphasized the class rules to Tom, she wanted Tom to sit properly by telling him to put down his legs. However, Tom straightened his body and said “stand, turn left” with a loud voice and acted as a soldier. I was curious if he thought sitting properly was like a soldier or he only wanted to show off and get the teacher’s attention. Miss Betty ignored Tom’s interruption and started to teach the class.

Besides setting up the class rules to ask the children to behave appropriately in class, providing advanced organizers before beginning academic instruction seemed necessary in this class.

Providing advanced organizers. Telling the children what would happen next or how the daily routine was changed was also a way for the teachers to calm the children's mood, especially for Kevin, the child with autism. Kevin performed many fixed behaviors and had difficulty adapting to any change. Therefore, to inform him of the change in advance was an important action to help Kevin to accept the change and scream less. Both Miss Betty and Miss Amy expressed that they had to notify Kevin of any change including new activities and visitors in advance. If they did so, Kevin would feel alright with the arrangement of the class activities. In addition, Miss Amy also pointed out that she not only had to tell Kevin of the changed activity in advance but also review it with him after he came back to the class in order to help him to understand the event's meaning. She explained,

然後我們就是可能會有改變行為或行動啊，我們就是盡量會事先跟他講。就像上次我講完了之後，我其實回來還會跟他解釋說，你看，老師有跟你說去文化中心，那你也去文化中心玩，你看到皮影戲。然後我們回來再來複習，文化中心是什麼，讓他知道說，會有突發狀況那是有意義的，那是我們要去作一件有意義的事情，不是故意把你拖來拖去這樣子。

Then, when we might change our behaviors or activities, we would try to tell him in advance. After I told him, actually I came back to explain it to him as well. Like last time we visited the culture center, I told him by saying, "You see, I told you that we would go to the culture center. You went to visit the culture center, and you saw a leather-silhouette show. And then we went back to review the materials. What is a culture center?" And I let him know that a sudden change, such as visiting a place, was meaningful. That is, we would attend a meaningful event, not just take him here and there.

(2nd interview with Miss Amy-1, 6/06/07)

For this reason, Miss Amy notified Kevin on the first day of my formal observations that I would attend the class and have a video camera. Miss Amy took a picture of me holding my camera and standing in the place where I would stand for my observation. She then printed the pictures and glued them on Wednesday's and Friday's schedule. Then she taught the children there would be two more teachers in this class and when they would come. Here was the excerpt of what Miss Amy did in class:

Miss Amy (→Kevin): 好！你站這邊看好了，不然你會看不到 (*brings Kevin in front of the blackboard*).

Miss Amy (→Kevin): 來！這邊星期三，有Sandy老師 (*pulls Kevin's hand to point to the week schedule*).

Kevin: (*twists his body*)

Miss Amy (→Kevin): 她有拿著照相機、攝影機對不對？

Miss Amy (→Kevin): 還有哪一天有啊？ (*points to Friday on the week schedule*)

...

Miss Amy (→Kevin): Sandy老師在哪裡？你指給我看。

Miss Amy (→Kevin): 在那邊，Sandy老師 (*takes Kevin's hand to point to the direction of Miss Sandy*)

Miss Amy (→Kevin): [她]要來上課，會陪你們玩，好！

Kevin: (*coughs*)

Miss Amy (→Kevin): (*taps Kevin's back*)

Miss Amy (→Kevin): 不可以尖叫，會嚇到我們Sandy老師喔，來！坐好！ (*takes Kevin to his seat*).

Miss Amy (→Kevin): OK！You stand here to see, otherwise you cannot see. (*brings Kevin in front of the blackboard*).

Miss Amy (→Kevin): Come! Here Wednesday, there is Miss Sandy. (*pulls Kevin's hand to point to the week's schedule*).

Kevin: (*twists his body*)

Miss Amy (→Kevin): She holds the camera and video camera, right?

Miss Amy (→Kevin): Is there another day? (*points to Friday on the week schedule*)

...

Miss Amy (→Kevin): Where is Miss Sandy? Point to show me.

Miss Amy (→Kevin): over there, Miss Sandy (*takes Kevin's hand to point to the direction of Miss Sandy*)

Miss Amy (→Kevin): She will come to the class and play with you. OK!

Kevin: (*coughs*)

Miss Amy (→Kevin): (*taps Kevin's back*)

Miss Amy (→Kevin): You cannot scream. You will scare Miss Sandy. Come! Sit properly. (*takes Kevin to his seat*).

(Transcription #V10, 4/18/07)

In the snapshot above, Miss Amy took Kevin's hand in particular and brought him to the front of the schedule and showed him when I would come and where I would be, to make sure he understood I would come to the class to reduce his anxiety. She also told Kevin he could not scream to scare Miss Sandy. During the interaction, Kevin did not say any words, so I did not know if he really understood. However, Miss Amy told me I did not influence Kevin at all (Field notes, 5/25/07) as a result of informing the change beforehand.

One day, Miss Amy was attending a conference, and Miss Cathy was her substitute. This particular morning Kevin was leaning on Miss Betty and giving her a hug. Miss Betty told him, "Today Miss Amy is absent, and Miss Cathy will teach you." After she told Kevin about the change, she asked Kevin, "is that OK?" Kevin said, "Huo," which indicated "OK". Miss Betty told me that meant he understood. If Kevin imitated your question, that meant that he did not listen to you (Field notes, 6/01/07). Thus, informing him of any change, including changed activities or someone visiting or someone absent, would help Kevin to more easily accept the class activities arrangement and reduce his challenging behaviors, such as making noise or screaming.

Providing Positive Reinforcement

Providing positive reinforcement, according to Miss Amy, was an effective way to boost up the motivation of the children to behave well in order to obtain the rewards. The three teacher participants provided positive reinforcements by announcing reward requirements to start the class and utilizing various reinforcements.

Announcing reward requirements to begin the class. Usually, at the beginning of group activities, Miss Amy would tell the young children how many tokens were required

to exchange for a reward such as a cookie or to be a class leader. Sometimes Miss Amy would draw circles on the blackboard and tell the children if they earned three circles they could have a little cookie. She then took that opportunity to teach the number concept of 3. Compared to Miss Amy, Miss Betty did not announce the reward requirements as often. However, she had similar reward requirements as Miss Amy. For instance, she also asked the children to bring their magnet tokens in exchange for the reward. The following excerpt was what Miss Amy did when she announced reward requirements to start the class.

Miss Amy (→group): 今天我們的
，我們的磁鐵[tokens]要給好
棒的小朋友(*turn up her
thumb*)，不可以拿起來(*makes
a “no” gesture*)，就是好棒喔
。

...

Miss Amy (→Tom): 你，不可以再
去拿豆子[magnet tokens]，知
道嗎？你可不可以離開位子
去拿。

Tom: (*looks at Miss Amy*)

Miss Amy (→Tom): 不可以(*makes
a “no” gesture*)，只能坐在位
子上。

Miss Amy (→group): 坐在位子上
(*points to the class rules which
are written on the whiteboard*)
，不可以站起來喔，好不好
。

Miss Amy (→group): Today our
magnet tokens will be given to
great little friends (*turn up her
thumb*), if your tokens are not
taken away (*makes a “no”
gesture*), that means great.

...

Miss Amy (→Tom): You, you cannot
take away the beans [magnet
tokens] understand? You cannot
leave your seat to get them.

Tom: (*looks at Miss Amy*)

Miss Amy (→Tom): You cannot
(*makes a “no” gesture*). You
can only sit in your seat.

Miss Amy (→group): Sit in your seat
(*points to the class rules which
are written on the whiteboard*),
and don't stand up, OK?

(Transcription #V20, 5/04/07)

The reward requirements usually coincided with the teachers' requirements of these young children as to which behaviors are positive and which are inappropriate behaviors. In the above excerpt, Miss Amy first gave each child five tokens and told the

children that if they kept their five beans (i.e., magnet tokens) and did not lose them, they were doing great. Later, she turned toward Tom to tell him he could not stand up to take the magnet tokens and emphasized to him to sit in his seat, which would allow him to keep his five tokens. To add tokens for good behavior or give tokens first and asking the children not to lose them would serve the same function as positive reinforcement. I was not sure which one was more effective for the children. Moreover, I was curious why Miss Amy changed her reward requirements often. Miss Amy explained to me that it was because she wanted to try many different ways to attract the young children's attention. Consequently, I also observed that the teacher participants implemented various reinforcements for the students.

Utilizing Various Reinforcements. Miss Betty said she needed to try many ways to attract the child with ADHD to join the class activities. Similarly, Miss Amy also mentioned that she felt it took much effort to help these young children to pay attention to her teaching. In addition, due to the fact that the students had a very short attention span, she had to try many reinforcement strategies including stimulative language to attract their attention and extend their motivation to continue in the class activities. According to Miss Amy, the reinforcement strategies that she utilized were drawing stars, giving stickers to the child, allowing the child to be the little class leader, letting the child give candy to other children, allowing them to play the drum, ringing the dismissal bell, giving workbooks back to the class, etc. Moreover, praise could also be a good reinforcer to encourage the children to continue to work on their task. Compared to Miss Amy and Miss Betty, Miss Cathy utilized praise the most as a reinforcer. The following is a snapshot of Miss Cathy working with David during her art class:

Miss Cathy (→David): 對，再來
(holds David's hand to draw)
 David: *(draws with Miss Cathy's help)*
 Miss Cathy (→David): *(withdraws her hand from David's hand)*
 David: *(draws by himself)*
 Miss Cathy (→David): 對了，
 Hey:: 對,對,對, *(nods her head)*
 David: *(continues to draw by himself)*
 Miss Cathy (→David): 喔::，好棒
 喔!
 David: *(continues to draw by himself)*

Miss Cathy (→David): Right, again
(holds David's hand to draw)
 David: *(draws with Miss Cathy's help)*
 Miss Cathy (→David): *(withdraws her hand from David's hand)*
 David: *(draws by himself)*
 Miss Cathy (→David): Right, Hey::
 right, right, right, *(nods her head).*
 David: *(continues to draw by himself)*
 Miss Cathy (→David): Oh::,
 Excellent!
 David: *(continues to draw by himself)*

(Transcription #V16, 5/02/07)

In the interaction above, Miss Cathy first gave David direct physical assistance by holding David's right hand to draw. After she felt David could draw by himself, she withdrew her hand from David's hand. In addition, she gave David positive feedback by continuing to praise David and saying "Right! Right! Right! Great!" In this way, she encouraged David to continue to draw by himself.

Moreover, the teachers thought that it was important to execute their reward requirements in order to avoid giving reinforcement to children's inappropriate behaviors and assure the reward system could work effectively. Therefore, they insisted that the reward only goes to the one who behaves. It was particularly true for Tom, the child with ADHD. He challenged teachers' requirements and class rules very often. The following is a typical case of this kind of conflict that happened between Miss Amy and Tom.

(After Miss Amy gave Kevin a gift, she took the gift box down to the floor.)
 Tom: 我也要

(After Miss Amy gave Kevin a gift, she took the gift box down to the floor.)
 Tom: I want too.
 Miss Amy (→ Tom): You have to get

Miss Amy (→ Tom): 你要十張呀
! (*points to Tom's tokens*) 這
邊有沒有十張[tokens]啊?

...
Tom: (*beats on the table and kicks his feet*)

Miss Amy (→ Tom): 你要敲桌子
，那我不要[給你禮物]了，
Tom.

...
Tom: (*puts his head on the table and cries*)

...
Miss Amy (→ Tom): (*with a soft voice*) 你喜歡東西要用好的
方式去拿對不對? 哭哭也沒
有，還是沒有對不對? (.) 生
氣有沒有? (..)

Tom: (*looks at Miss Amy*)

Miss Amy (→ Tom): 我看你沒有
生氣，我給你一個星星。

Tom: (*looks at Miss Amy while she gives him a star on the board*)

Miss Amy (→ Tom): 給你一個機
會哦!

ten tokens (*points to Tom's tokens*) Have you gotten ten tokens yet?

...
Tom: (*beats on the table and kicks his feet*)

Miss Amy (→ Tom): If you want to beat the table, then I will not give you the gift, Tom.

...
Tom: (*puts his head on the table and cries*)

...
Miss Amy (→ Tom): (*with a soft voice*) If you like the objects, you have to get with good manners. Right? It's no use to cry. It's no use, Right? (.) Will you get it when you are angry? (..)

Tom: (*looks at Miss Amy*)

Miss Amy (→ Tom): I see you are not having a tantrum. I'll give you a star.

Tom: (*looks at Miss Amy while she gives him a star on the board*)

Miss Amy (→ Tom): I'll give you a chance.

(Transcription #V35, 6/06/07)

In the excerpt above, when Tom wanted something, he would directly grab at the objects. However, when he could not get it, he would beat on the table in anger, kick his feet, and even cry. Facing Tom's challenging behaviors, Miss Amy waited for Tom to calm down and told him that he must behave with good manners to get the gift. She gave him one more chance to get the reward by being patient to wait to get more tokens. By insisting on her reward requirements the teacher let the child know that a tantrum was no way to get a reward, thus helping to reduce the challenging behaviors.

Further, the reinforcements would be varied based on individual differences. For example, Miss Amy described that many reinforcements might not be effective for the child with autism because he could work on the task even without reinforcements. As for the young child with severe/multiple developmental disabilities (SMDD), she would need different reinforcements due to her extremely limited communication competence and restricted body control. Julie was the only student participant with SMDD in this study. She used to cry and express her dislike or bad moods. Miss Betty noted that, if Julie was crying, she would “start to talk to her and play with her.” This would help to soothe her emotions. For instance, she told Julie that she cried like the historic woman, Mojoannu, who cried to collapse the Great Wall. She used funny tones to talk to Julie and thus encouraged Julie to smile. Miss Amy also mentioned that when Julie was angry and cried, she would keep telling her positive things in a soft tone. Thus, Julie would become happy. For example, Miss Amy tried to lift Julie’s mood by praising her as a pretty girl. In addition, Miss Amy also tried to give Julie audio and visual stimuli to get her attention in order to stop her crying.

Julie: Un:: (*sobs*)

Miss Amy (→ Julie): 這是什麼？
(*takes a bell in front of Julie and shakes it*)

Julie: (*looks up; does not respond*)

Miss Amy (→ Julie): (*moves the bell to a different place and shakes it*)

Julie: (*does not respond*)

Miss Amy (→ Julie): 轉這邊，拿去，手手來拿，手手來拿
(*shakes the bell*)。

Julie: Un:: Ya:: (*crys*)

Julie: Un:: (*sobs*)

Miss Amy (→ Julie): What is this?
(*takes a bell in front of Julie and shakes it*)

Julie: (*looks up; does not respond*)

Miss Amy (→ Julie): (*moves the bell to a different place and shakes it*)

Julie: (*does not respond*)

Miss Amy (→ Julie): turn this way, take it, your hands come to get it, your hands come to get it
(*shakes the bell*)。

Julie: Un:: Ya:: (*crys*)

In the case above, Miss Amy first told Julie what this was and took a bell to shake in front of Julie's eyes. She then moved the bell to another place to see if Julie could trace the bell. She even encouraged Julie to lift her hand to take it. However, Julie did not pay attention to her and started to cry. This reinforcer seemed not to work very well at that time to lift Julie's bad mood. So, Miss Amy kept trying many different ways to comfort her.

Differentiating Demands/Responses

Providing positive reinforcements might be effective to deal with children's inappropriate behaviors. However, to quickly stop children's interruptions, it was sometimes necessary for the teachers to respond differently, e.g., using punishment, telling opposite words or ignoring the inappropriate behaviors, or demanding that the children work on another task.

The use of punishment. In order to quickly stop the children from interrupting the class, Miss Amy mentioned that she also used some kind of actions such as physically restraining the child, asking the child to stand, or not allowing the child to have a chair to sit in for several minutes. During small group activities, the children frequently displayed interruptive behaviors, which triggered the teachers to give them punishments. The following was a snapshot of Miss Amy's small group instruction:

Miss Amy (→Kevin): Kevin ,
Kevin , 有。
Kevin: 有

...
Miss Amy (→Kevin): Kevin (*holds
Kevin's hand and walks in
front of the whiteboard*)

Miss Amy (→Kevin): Kevin, Kevin,
yo::.
Kevin: yo::

...
Miss Amy (→Kevin): Kevin (*holds
Kevin's hand and walks in front
of the whiteboard*)

Miss Amy (→Kevin): 來！你到前面唸，自己指，十三，奶奶，牛奶，加(.)，加(.)，加(.)，加(..)

Kevin: (*does not respond*)

Miss Amy (→Kevin): 沒有說話呀，加(.) 紅茶，奶奶，奶奶，奶奶-

David: (*stretches his hand to get Miss Amy's drum-stick*)

Miss Amy (→David): (*withdraws away the drum-stick so David cannot get it*)

(David turns his head back toward the table which is behind him to hit the table with a frustrated look on his face. Tom also does the same action as David does.)

Miss Amy (→David): 來！站著 (*lifts David to stand up*) 站著，不要上課了哦！站著。

Tom (→David): 不要坐，我不給你坐 (*moves David's chair close to the table*).

Kevin: 嗚:: (*gets Miss Amy's drum-stick playing*)

Miss Amy (→Kevin): (*gets back the drum-stick from Kevin*)

Tom (→David): 你不可以坐。

Miss Amy (→Tom): 你也不要坐，站著，站著。

Kevin: 啊:: (*walks back to his seat*)

Miss Amy (→Kevin): Come! You come to the front and read. Pointing by yourself. Thirteen, grandmother, milk, add(.), add(.), add(.), add(..)

Kevin: (*does not respond*)

Miss Amy (→Kevin): You have not said "add" (.) black tea, grandmother, grandmother, grandmother-

David: (*stretches his hand to get Miss Amy's drum-stick*)

Miss Amy (→David): (*withdraws the drum-stick so David cannot get it*)

(David turns his head back toward the table which is behind him to hit the table with a frustrated look on his face. Tom also does the same action as David does.)

Miss Amy (→David): Come! Stand up (*lifts David to stand up*). Stand up and do not attend the class. Stand.

Tom (→David): Do not sit down. I do not let you sit (*moves David's chair close to the table*).

Kevin: u:: (*gets Miss Amy's drum-stick playing*)

Miss Amy (→Kevin): (*gets back the drum-stick from Kevin*)

Tom (→David): You cannot sit.

Miss Amy (→Tom): You cannot sit either. Stand up, stand up.

Kevin: Aa:: (*walks back to his seat*)

(Transcription #V27, 5/25/07)

This incident occurred while Miss Amy was reviewing the text in the material from the general kindergarten class next door. She had mentioned to me earlier that they had inclusive activities every Thursday. On that day, the teachers would bring their students to the next-door general kindergarten class and join their activities. She said she would take the same materials, modify them and review them in her small group

instructions. Miss Amy asked Kevin to read the text, but Kevin did not pay attention to her. Hence Miss Amy brought Kevin to the whiteboard and guided him to read. Kevin did not respond to her for a little while. David could not wait, and tried to grab Miss Amy's drum-stick to play, but Miss Amy did not allow him to take it. It made David very frustrated, thus he turned his head back toward the table and hit it. David's action made Tom imitate him. Their interruptive behaviors forced Miss Amy to stop guiding Kevin to read and turned to ask David to stand up. On this occasion Tom behaved like a teacher. He pushed David's chair close to the table and told David, "Do not sit down; I do not let you sit." It seemed that Tom tried to avoid being punished by passing the fault on to David. However, Miss Amy also asked Tom to stand up. When Miss Amy was busy dealing with David's and Tom's interruptions, Kevin took the drum-stick and played with it, but Miss Amy took it back right away. Kevin softly whined and went back to his seat.

In this situation, I could feel Miss Amy's frustration. Kevin usually reacted to the adults' request slowly, so every time when Kevin had a turn, it took a while for him to respond. In these situations, David and Tom also frequently lost their patience waiting and displayed challenging behaviors, which sometimes caused Miss Amy to punish to stop their interruption. Children's behaviors served as a way of communication. Hence, I was more concerned about the functions of children's challenging behaviors and how to manage them in order to reduce or avoid them. Furthermore functional behavior training may help to train children in new appropriate social communication skills to substitute their challenging behaviors. I will future discuss this issue in the working hypotheses of Chapter Six.

Besides, I also wondered if the text was suitable for these young children with developmental disabilities to read because these children seemed not to really understand the meaning of the text. The text contained two sentences, and it read like a children's rhyme. I felt it was too long for these young children to read due to their learning delays. I wondered if the lesson plans and the teaching materials were suitable for these young children. It would be an important issue to discuss later.

Using reverse psychology or ignoring inappropriate behaviors. Miss Amy observed that Tom liked to get together with others, so sometimes she would use reverse psychology to encourage Tom to join the class. For, example, she would say, "We will have class and you do not have to come. You can stay here." Upon hearing this, Tom would say, "No, I want to attend the class, too." When the children attempted to get the adults' attention by exhibiting challenging behaviors, ignoring their behaviors might also be a way to stop their inappropriate behaviors. Here was a specific case of what Miss Betty did:

(Tom leaves his seat to carry his backpack and puts it on the table. The students all look at him.)

Miss Betty (→group): 好，我們不理他。

Tom: 等一下 *(with a loud voice)*

Miss Betty (→group): 我們不理他，再見，好，轉過來。

Tom: *(goes back his seat and sits down)*

(Tom leaves his seat to carry his backpack and puts it on the table. The students all look at him.)

Miss Betty (→group): OK, we will ignore him.

Tom: 'wait' *(with a loud voice)*

Miss Betty (→group): We will ignore him. Good-bye, OK, turn back.

Tom: *(goes back to his seat and sits down)*

(Transcription #V29, 5/30/07)

In this case, it seemed that Tom tried to get Miss Amy's attention by running away. This time Miss Betty's asking the other students to ignore him was effective to

allure Tom back to the class on his own. It seemed that, for Tom, the more you noticed his inappropriate behaviors, the more he challenged you. So, to stop Tom's challenging behaviors, one could not utilize direct demands. Hence, allowing the child to work on another task seemed a good way to calm down his highly active behaviors.

Redirecting children by assigning another task. Allowing children to work on another task, such as to write a worksheet, was a way the teachers dealt with children's challenging behaviors, especially for Tom, the child with ADHD. Miss Amy explained this idea was from a film named "ADHD in class". Miss Amy explained:

我看那個一個錄影帶叫“ADHD在教室”，他們裡面就是有一個技巧就是說，當孩子在作錯事情的時候，你不要去糾正他這個錯誤的行為，你要先讓他安定下來，讓他選擇你要好好跟人家講話，你就可以跟人家玩。你不好好跟人家講話，你就要去作一件你不喜歡去作的事情。那靜態的動作是他 [Tom]不喜歡作的事嘛，啊我們就讓他進去寫[字]，順便練習運筆這樣子。

I had watched a videotape named "ADHD in class". There is a strategy that is when the child does something wrong, you do not correct his wrong action. You can first let him calm down and then let him choose to either talk to others politely or to play with them or to work on a task that he disliked. Tom does not like to do quiet tasks, so we brought him back to classroom to write, which also helped him to practice holding the pen.

(2nd interview with Miss Amy-1, 6/06/07)

Tom was a child with ADHD, and he often had conflicts with peers during break time. Every time he did something wrong, such as arguing with others or hitting peers, the teachers would bring Tom back to the classroom to practice writing. One day when the first small group was over, and break time followed, Tom pushed away the screen that was in the middle of the room. Then, he wanted to go out to play, but he was rude and shouted loudly. So Miss Amy did not allow him to go out to the playground. Miss Amy wanted Tom to practice drawing lines, writing numbers, or writing Zhuyin Fuhao

(national phonetic symbols), and then he could go out. Miss Betty watched Tom finish his worksheet, and Miss Betty asked Tom to tell Miss Amy that he finished his worksheet. He needed to get Miss Amy's permission before he went to the playground. Tom said loudly to Miss Amy, "I finished." Miss Amy said "good," so Tom went out of the classroom happily. Ten minutes later, Miss Amy brought Tom back to the classroom because Tom had taken two children's toys rudely. Miss Amy told Miss Betty that he needed to write two pages of worksheets because he hit two children (Field notes, 5/25/07). Thus, in this way the teachers asked Tom to go away and do a quiet thing (e.g., practicing writing) whenever he misbehaved.

I was curious if Tom would dislike writing more than before because writing was the task that he did not like. Miss Amy explained to me that she did not think Tom disliked writing any more than previously, but rather his dislike seemed to be less because in the past he highly disliked writing. In addition, when it was near the end of the semester, Miss Amy told me that Tom could write more words than when he first attended this class. So, she thought this treatment had a two-way efficacy.

To sum up, to manage these young children's inappropriate behaviors, the teachers executed many strategies. They set up their class routine by demanding class rules and providing advance organizers before teaching the academic lessons. The teachers also provided positive reinforcement to enhance children's attention or comfort their moods. Further, differentiating consequence/response, using reverse psychology or ignoring inappropriate behaviors, and allowing the child to work on another task to calm himself down were the strategies that the teachers adopted during their communication interventions. Besides managing children's inappropriate behaviors, teaching appropriate

social communication skills to replace their inappropriate communication language and behaviors was one of the main themes that emerged from the findings.

Theme 2: Teaching Appropriate Social Communication Skills to Replace their Inappropriate Communication Language and Behaviors

Teaching appropriate social communication skills to replace their inappropriate language and challenging behaviors was one of the main targets for the teacher participants' communication interventions. Since the student participants displayed a wide range of communication competencies (three children with verbal and one child with nonverbal and limited body control), the instruction of appropriate social communication skills will be presented in two sections: (a) teaching desired communication behaviors for the verbal children, and (b) developing appropriate nonverbal communication behaviors for the child with severe/multiple developmental disabilities (SMDD).

Teaching Desired Communication Behaviors for the Verbal Children

The strategies of the teacher participants for teaching the children appropriate communication behaviors for the verbal children were (a) re-directing inappropriate behaviors, (b) modeling appropriate behaviors, and (c) emphasizing children's literacy to enhance children's communication competence.

Re-directing inappropriate behaviors. According to sociocultural theory, learning occurs through the social interaction of people entrenched in a broader sociocultural context (Boardman, 2005; Wertsch, 1991). Hence, the environment and adults' speech and behaviors impact young children's language learning and behavior in their early ages

to a great extent. This study was carried out in Southern Taiwan, Kaohsiung County. People in this county speak Taiwanese more than Mandarin although Mandarin is the official language in Taiwan. One of the student participants, Tom, swore excessively in Taiwanese when he first transferred to this class. Tom's parents were divorced, and he lived with his mother, grandparents and uncles. They all spoke Taiwanese, and he grew up in a Taiwanese-speaking environment. I was curious why Tom swore so much; as Miss Amy said, every word he said was dirty when he came to this class the first day. He might have learned these dirty words from family members or neighbors.

Moreover, most of the dirty words were used to curse others when someone was angry. Hence, I suspected that perhaps the child used the dirty words because he was scolded and that the adults used them to scold him. In addition, the child's rude attitude might also have been learned from how others treated him or adults' interactions with one another. To re-direct children's inappropriate behaviors, the teachers chose to directly guide the children to speak the right words. Miss Amy stated,

因為有時候他不知道什麼叫做髒話這兩個字是什麼[意思]? 然後他馬上出現我們就趕快說這個不對，不好聽。...他是要跟你玩，就類似玩跟[你]打交道，打招呼的意思啦，[但]他都是用那種不對的方式，因為家裡可能沒有教他怎麼跟人家打招呼，沒有養成那種習慣。因為他媽媽比較少說話，所以我在想說[不能]任由他自己去發展出他自己的語言啊，所以我就在想說，我就教他講正確的語言就好了。

Because sometimes he does not know what the meanings of dirty words are, once he speaks it, we will stop him by telling him this is wrong and does not sound right. ... He wanted to play with you by greeting you, but he got used to using this wrong way. Probably it is because no one taught him how to greet others at home, and he was not exposed to the right way. Since his mother seldom speaks, I think we should not let Tom develop his own language freely. So, I think I should simply teach him to say the right words.

(2nd interview with Miss Amy-2, 6/15/07)

Miss Amy thought Tom might not really understand what dirty words meant. He might use it as a way to greet others. She assumed that Tom's mother was a very quiet person and so did not teach Tom the appropriate ways of greetings at home. However, because Tom's mother and grandmother, who were the primary contact persons with the school, appeared hesitant to interact with the teachers, the teachers were reluctant to verify their assumptions upon Tom's living and learning environment at home. Since Tom's family did not appear to be addressing this issue, Miss Amy decided to teach Tom to speak the right words in order to stop this bad habit. Amy gave an example regarding how she trained Tom to say the right words.

比如他[Tom]罵[其他小朋友]說：“*你走啦，你，這個要的是我的喔。*”我就會跟他講[說]：“請借我玩，好不好？”我先第一句話，我是跟他說這[玩具]車子是學校的，不是你的，也不是小朋友的，那你要說請借我玩。他現在就是慢慢，只要看到[玩具]車子要衝去拿的時候，就要說：“請借我玩”。[我]就是訓練他[用]這個[方式]跟人家溝通。

For example, Tom scolded other children by saying “*you, go away! This toy is mine.*” I would tell him to say “Please let me play with it, OK?” First, I would tell him this toy car actually belonged to the school. It is not yours, nor other children's. You have to say, “Please let me play with it”. Whenever he wanted to take the toy car, he must say, “Please let me play with it.” I used this way to train him to communicate with others.

(2nd interview with Miss Amy-2, 6/15/07)

According to Miss Amy, Tom used to monopolize the school toys and pushed or scolded others to go away. Actually, preschool children are self-centered, active, have lots of energy and may be aggressive in their play. Consequently, the conflict between preschoolers will happen very frequently during their play time with peers. When Miss Amy noticed Tom using inappropriate ways to speak to others, she told Tom that he had to ask for permission before using it because the toys belonged to the school.

Although Kevin, David and Tom were all verbal children, Kevin and David said very few words, and Tom said words that were different from the others, so they all became used to interacting with others using physical actions. For that reason, guiding the children to use appropriate language might be necessary along with encouraging the children to talk instead of using their actions in place of words. For example, while Miss Cathy instructed the child to draw, she usually allowed the children to make choices and requested the child to talk about what he wanted. Miss Cathy knew that Tom could speak, so when Tom responded to her by nodding his head, she asked Tom to respond to her by speaking.

Another student participant, Kevin, was a child with autism and he was accustomed to screaming or making sounds like un:: ai:: to show his intentions. Therefore, adults had to guess what his intention was.

那他很多的尖叫我也是都用猜的啊，也許我後來猜到的還已經越猜越厲害了啦(*laughs*)，已經知道[他的意思]，抓到的程度都還蠻高的啦。...次數多了我就知道他尖叫是因為他看不慣別人[的行爲]。...然後他就願意跟你溝通喔，就是之前伊亂來，我也不知道他在亂什麼？然後我就覺得我們那一種默契就好像沒有，可是現在猜對了之後，他知道我瞭解他了，他很願意跟你講，不是講啦，是用尖叫的，然後但是處理完他會馬上好，他就不會嗯::唉:: 很久，以前常有那種嗯::唉:: 很久。...現在解決了，他馬上就安靜了，對啊，不太好猜就是了。

I guessed at a lot of his screams. ... I gradually understood his intentions, so I could guess correctly why he screamed. ... After many times of screaming, I knew he screamed because he did not like others' actions. ... Then he would be willing to communicate with you. In the past, *he was acting out*. I did not know why *he was confused*. I felt that we lacked unspoken consensus. But now that I guessed right, I understand him, and he is willing to tell me. He uses his screaming to tell us something. He would be quiet immediately once his problem was solved. He would not be noisy for long (i.e., un::, ai::). In the past he would have this situation for a long time, but now once the thing is solved, he calms down at once. Yes, but it was not easy to guess.

(2nd interview with Miss Amy-2, 6/15/07)

Kevin was easily annoyed by Tom's noisy presence. I found Kevin screaming while Miss Betty was teaching the small group. In order to determine why Kevin screamed, I checked with Miss Amy and she told me that it might be Tom: Kevin did not like Tom because Tom was too active (Field notes, 5/25/07). The following excerpt shows how Kevin became upset and actively involved in Miss Amy's correction of Tom's screaming.

Kevin: A:: a:: (*screams and pulls Tom's hair*)
Tom: (*used his right hand to hold his head and looks at Kevin*)
(Miss Amy stops Kevin from pulling Tom's hair.)
Miss Amy (→Tom): 因為你剛剛那樣，所以Kevin生氣了。
Kevin: A:: a:: (*screams*).
Miss Amy (→Kevin): Kevin 嘴巴閉起來。
Kevin: Un:: (*reduces his voice*).
Miss Amy (→Kevin): 對，那是他不乖，跟你沒關係，你不用管他，你做好你自己的事，你也應該要講話 (*points to Kevin's mouth*)。
Kevin: (*sits quietly on his chair*)
Tom: (*sits quietly by Miss Amy and faces Kevin*)

Kevin: A:: a:: (*screams and pulls Tom's hair*).
Tom: (*used his right hand to hold his head and looks at Kevin*)
(Miss Amy stops Kevin from pulling Tom's hair.)
Miss Amy (→Tom): Kevin is angry because of what you just did.
Kevin: A:: a:: (*screams*).
Miss Amy (→Kevin): Kevin, close your mouth.
Kevin: Un:: (*reduces his voice*).
Miss Amy (→Kevin): Yes, that was his fault and has nothing to do with you. You don't have to listen to him. You must take care of your own tasks and you also have to speak (*points to Kevin's mouth*).
Kevin: (*sits quietly on his chair*)
Tom: (*sits quietly by Miss Amy and faces Kevin*)

(Transcription #V32, 5/30/07)

Miss Amy stopped the conflict between Kevin and Tom by telling Tom that Kevin became angry because of Tom's wrong doing. And then, she told Kevin that he should speak up instead of screaming or using aggressive behaviors. Tom and Kevin were all quiet after Miss Amy talked to them. This revealed that helping Kevin to

understand the situation would help him to stop his inappropriate behaviors. However, to demand that the children speak up, without providing positive reinforcement sometimes, might not work very well. As described before, the teachers often (but not consistently) utilized various positive reinforcements to manage children's inappropriate behaviors. I also observed that the teachers employed the same reinforcers to prompt the children to talk. The following snapshots demonstrate how Miss Amy tried different reinforcements to elicit speech from the young children.

Example 1: Treating the children with little cookies.

(Tom moves to sit on a general student's seat.)
Amy (→group): 誰要玩？誰要玩，答對了我們請他吃小饅頭。
Tom: (*goes back his seat*)
Amy (→group): 哦，小饅頭。
Tom: 小饅頭 (*speaks happily*)
Amy (→group): 誰要玩？... 誰要玩？
Tom: 我要玩
Amy (→Tom): 好，你要玩，你說，我要玩。
Tom: 我要玩 (*holds the drum-stick*)

(Tom moves to sit in a general student's seat.)
Miss Amy (→group): Who wants to play? Who wants to play? If someone gets the right answers, we will give him a little cookie.
Tom: (*goes back his seat*)
Amy (→group): Oh! Little cookies.
Tom: Little cookies (*speaks happily*)
Amy (→group): Who wants to play? ...Who wants to play?
Tom: I want to play.
Amy (→Tom): OK, you want to play. You say, I want to play.
Tom: I want to play (*holds the drum-stick*)

(Transcription #V18, 5/02/07)

Example 2: Using a drum-stick as a microphone to motivate children to talk.

Miss Amy (→group): 我麥克風給誰，誰要唸得很大聲喔 (*holds a drum-stick as a microphone and moves it in front of Tom*)。
Tom: 小雞

Miss Amy (→group): I give the microphone to the one, and he has to read it out loud (*holds a drum-stick as a microphone and moves it in front of Tom*).
Tom: little chicken.

(Transcription #V20, 5/04/07)

Example 3: Giving the children stickers.

Miss Amy (→group): 好，現在我發本子，叫到名字的喊“有::，”有喊“有::”的人有貼紙喔。

Miss Amy (→David): David

David: (*does not respond*)

Amy (→David): 你無講“有::！” David.

David: 有:: (*raises his right hand*)

Miss Amy (→group): OK! Now I will give you your workbook. If I call your name, you must say “yo::.” If you say “yo::,” you can get a sticker.

Miss Amy (→David): David

David: (*does not respond*)

Amy (→David): **You did not say** “yo::!” David.

David: Yo:: (*raises his right hand*)

(Transcription #V10, 4/18/07)

In example 1, treating the children with cookies had a positive effect for Tom. When Miss Amy announced the cookies as their reward, Tom not only went back to his seat but also said “little cookies” happily. Later, he responded to Miss Amy by saying “I want to play” and even followed her request to say “I want to play” again. Here I was curious that Tom already said “I want to play” and Miss Amy still wanted him to say it again. It may be because Tom was the one who could respond to the teachers automatically and rapidly. So, I observed that sometimes Miss Amy allowed him to reply to her question first to be a model to the other children. So it would make sense that in example 2 when Miss Amy used a drum-stick as a microphone to motivate children to talk, she moved the drum-stick in front of Tom first, and Tom gave her the desired verbal response.

In example 3, even though Miss Amy announced that the child could get a sticker if he responded to her by saying yo::, David did not respond at first. After Miss Amy reminded David in Taiwanese and then he responded by saying “yo::” and raised his right hand too. There are three possible reasons of David’s not responding to the teacher. First, David did not pay attention to the teacher because David easily lost his attention in class. Second, the reward was not effective for David. According to Miss Amy, David did not

have interest in exchanging objects. And third, David did not understand the teacher's requirement because David's primary language was Taiwanese. So after Miss Amy reminded David in Taiwanese, he could give a right response such as saying "yo:~" and raising his right hand. Although Miss Amy did not require the students to say "yo:~" along with raising their hands, it was a common action in Taiwan when responding to others who called on your name. Therefore, David's action showed that he understood what the teacher's request was after she spoke Taiwanese to him.

When the teachers asked the children to talk, they also gave them models to allow the children to know how to talk. When teaching appropriate social communication skills, providing the children with models could be a vital and effective strategy.

Modeling appropriate speech and behaviors. The three teacher participants all executed a lot of modeling to guide these young children to speak up and behave appropriately. Modeling is one of the strategies of Milieu teaching (give reference), which focuses on teaching children's utterances and vocalizations, and then aims to establish children's spontaneous and initiated language (Kaczmarek et al., 1996; Lee, 2001; McCathren, 2000). For example, when Miss Betty taught the children to name the numbers, she asked the children to count the numbers by imitating what she said. The following illustrates how Miss Cathy gave the child models to answer her questions:

Miss Cathy (→David): 誰畫的?
(*points to the picture on the board*)

Miss Cathy (→David): 這是誰畫的?
?

David: (*looks at the picture, does not respond*)

Miss Cathy (→David): 我畫的

Miss Cathy (→David): Who drew it?
(*points the picture on the board*)

Miss Cathy (→David): Who drew this picture?

David: (*looks at the picture, does not respond*)

Miss Cathy (→David): I drew it.

David: I drew.

David: 我畫
Miss Cathy (→David): 我畫的
David: 我畫::
Miss Cathy (→David): 的
David: 的

Miss Cathy (→David): I drew it.
David: I drew::
Miss Cathy (→David): it.
David: it.

(Transcription #V16, 5/02/07)

Miss Cathy, the art teacher, stated that young children in early childhood special education have inadequate communication and cognition. For this reason, she would help or lead the children to talk about their drawing. In the excerpt above, when the child did not know how to respond to Miss Cathy's question, she told the child to say, "I drew it." And she insisted that the child had to speak exactly what she said. In Miss Cathy's class, I frequently found that she gave the child direct physical assistance to guide him to draw and did not give much time for free drawing. Thus, the child sometimes wanted to avoid her control. In addition, her teaching tended to be more teacher-centered than child-centered, which might be because she thought that these children had inadequate communication and cognition.

Role playing was the other strategy to demonstrate appropriate social communication skills. One day Tom had a big conflict with the peers as he played outside at the playground. During the small group, Miss Amy asked Miss Betty to co-teach. They role played to demonstrate how to borrow a ball from others. Here was the snapshot of their role playing:

Miss Amy (→Miss Betty): 那你要
不要玩[球] ?
Miss Betty: 我要, 我要。
Miss Amy (→Miss Betty): 那你要
怎麼跟我說? (*gives the
"please" card to Miss Betty*)
Miss Betty: 請老師給我玩[球]可不

Miss Amy (→Miss Betty): Do you
want to play with the ball?
Miss Betty: I do. I do.
Miss Amy (→Miss Betty): How do
you ask me? (*gives the "please"
card to Miss Betty*)
Miss Betty: Teacher, may I play with
the ball, please?

可以？
Miss Amy (→Miss Betty): 好，你要哪一顆[球]？
Miss Betty: 我要小的，橘色的球
Miss Amy (→Miss Betty): 橘色的球，好，我借給你。(gives the orange ball to Miss Betty)
Miss Betty: 謝謝你！
Miss Amy (→Miss Betty): 不客氣！

Miss Amy (→Miss Betty): OK!
Which ball do you want?
Miss Betty: I want the little orange ball.
Miss Amy (→Miss Betty): orange ball, OK, I will give it to you. (gives the orange ball to Miss Betty)
Miss Betty: Thank you!
Miss Amy (→Miss Betty): You are welcome!

(Transcription #V32, 5/30/07)

In the case above, Miss Amy made three cards on which were “Please,” “Thank You,” and “Sorry.” When Miss Amy asked Miss Betty how she had to ask if she wanted to play with the ball, she gave the “Please” card to Miss Betty. Here, Miss Betty assumed the role of a child to respond to the teacher. Her language provided a model to the children. However, in this class, only Tom could speak more than other students. I suspected that her utterances might have been too long for the children to follow because Kevin and David usually said few and very short words. From the previous example, when Miss Cathy wanted David to say, “I drew it,” he could only say “I drew.” And then Miss Cathy said “it,” and he followed to say “it.” At this point I was doubtful that David and Kevin could repeat the long sentences such as “May I play with the ball, please?” and “I want the little orange ball.” Besides, the young children were still learning basic knowledge such as numerals, shape, color, and naming some objects or body parts. It might be difficult for these young children to tell the teacher, “I want the little orange ball.” Clearly, adults often model utterances that are much more complex than young children are capable of; i.e., through such modeling, they learn to extend their shorter utterances into longer ones. However, the teachers should have provided more

scaffolding if they wanted the children to produce longer sentences. Therefore, Miss Betty's modeling seemed inappropriate for these young children, especially for David and Kevin. Later, Miss Amy and Miss Betty demonstrated how to deal with conflicts.

- | | |
|--|---|
| Miss Amy (→Miss Betty): 我[的球]借你玩。 (<i>gives the orange ball to Miss Betty</i>) | Miss Amy (→Miss Betty): I'll let you play with my ball. (<i>gives the orange ball to Miss Betty</i>) |
| Miss Betty (→Miss Amy): 謝謝你! (<i>takes the orange ball</i>) | Miss Betty (→Miss Amy): Thank you! (<i>takes the orange ball</i>) |
| Miss Amy (→Miss Betty): 你[的球]借我玩。 | Miss Amy (→Miss Betty): Let me play with your ball. |
| Miss Betty (→Miss Amy): 不要! | Miss Betty (→Miss Amy): No! |
| Miss Amy (→group): 不要哦! 好沒關係, 我玩這個[球]。 (<i>takes the green ball and plays with it</i>) | Miss Amy (→group): No?! OK, I'll play with this ball. (<i>takes the green ball and plays with it</i>) |
| Miss Betty (→Miss Amy): 我還要這個[球]。 (<i>touches the green ball</i>) | Miss Betty (→Miss Amy): I want this ball, too. (<i>touches the green ball</i>) |
| Miss Amy (→Miss Betty): 不可以, 這是我的。 | Miss Amy (→Miss Betty): No, this is mine. |
| Miss Betty (→Miss Amy): 可是, 我要。 | Miss Betty (→Miss Amy): But I want it. |
| Miss Amy (→Miss Betty): 不可以, 你要玩你自己的球。 | Miss Amy (→Miss Betty): No, you have to play with your own ball. |

(Transcription #V32, 5/30/07)

In the case above, Miss Amy and Miss Betty demonstrated to the children what they could do if someone did not allow them to play with the toy. They modeled the option of playing with another toy instead of fighting. Instead, I felt the class should learn to say “no” to Tom when Tom's inappropriate behavior showed up because Tom was the one who grabbed peers' toys all the time. Here, I also questioned if the children (i.e., David and Kevin) could say this long sentence to Tom, “No, you have to play with your own ball.”

It seemed that Tom learned how to use polite manners to request objects through role play because he was able to repeat the long sentence with the teachers. For instance, after Miss Amy and Miss Betty modeled how to deal with conflicts when someone did not allow another to play with the ball, they involved Tom in the role play. When Miss Betty took away Miss Amy's ball, Miss Amy pretended to sob and asked Tom to be the teacher to get her ball back. She guided Tom to gently ask Miss Betty to return the ball. After Tom did so, Miss Amy praised him for doing a good job.

Emphasizing children's literacy to enhance children's communication competence. The main teachers and parents in this class had the perception that communication intervention equaled to teaching the children literacy. Miss Amy stated that the parents hoped their children could recognize the national phonetic symbols and practice pronouncing them during class activities. Though Miss Amy knew that Zhuyin Fuhao (national phonetic symbols) are not included in the courses in general early childhood education in Taiwan, and she felt that it was not suitable to teach them in kindergarten, she taught them because she shared the general cultural belief with the parents that children should be taught literacy, regardless of their disability-related educational needs. In so doing, she also appeased parental expectations. I observed that both Miss Amy and Miss Betty emphasized that the children had to speak up and practice writing. Here was the example:

Miss Amy (→Kevin): 這個字是什麼？*(holds Kevin's hand to touch the word card)*。
Miss Amy (→Kevin): 來，寫寫看
喔，一橫、一橫、轉彎 (*holds Kevin's finger to write on*

Miss Amy (→Kevin): What is this word? *(holds Kevin's hand to touch the word card)*。
Miss Amy (→Kevin): Come, write it down, one one line, one line, turn. *(holds Kevin's finger to write on the word card)*。

the word card) 。
Miss Amy (→Kevin): 對，ㄉ。
Kevin: ㄉ
Miss Amy (→Kevin): 對！好棒！
(*touches Kevin's chin*)

Miss Amy (→Kevin): Right, ci
Kevin: ci
Miss Amy (→Kevin): Yes!
Excellent! (*touches Kevin's chin*)

(Transcription #V10, 4/18/07)

Miss Amy held the child's hand in the dialogue above to trace the symbol on the word card and asked the child to practice pronouncing it. Usually, for the last 10 minutes of each small group, Miss Amy and Miss Betty would give the children workbooks to write in. And they required the children to write it well, so the teachers used to hold the children's hands to write. Even when the children scribbled, the teachers would help to erase it and ask them to write it again. Here I found the three teacher participants were used to giving the children direct physical assistance to make sure they could write or draw exactly as the teachers required. I wondered why the teachers did not allow the children to do their tasks on their own and why they did not allow the children to make mistakes. They corrected every wrong answer the children made. Their teaching patterns might be related to their own training background, previous personal and professional experience and even culturally-based practices.

Developing Appropriate Nonverbal Communication Behaviors for the Child with SMDD

Julie was the only student participant in this study with SMDD. She was nonverbal and non-ambulatory and exhibited very limited body control. Most often, she lay on the mat and did not exhibit much reaction to the environmental stimulation. During breaks, the teachers would let Julie sit in her wheelchair and pushed her to go outside to the playground to listen to the sound of other children playing or to feel the

temperature of different environments. She usually used facial expressions such as crying or laughing/smiling to express her moods. Therefore, three strategies were employed by the teacher participants to help Julie develop appropriate nonverbal communication behaviors. They were (a) encouraging the child to move her hands and feet to respond to others, (b) providing tactile and audio stimulation to allow the child to participate in the activities, and (c) responding to the child's nonverbal behaviors based on the teachers' interpretation/understanding.

Encouraging the child to move her hands and feet to respond to others. To develop her appropriate nonverbal communication behaviors, the teachers tried to train Julie to control her limbs in order to interact with others effectively. I observed that Miss Amy tried to place the toy near Julie's hands or feet, especially her dominant hand and foot; that is, her right hand and right foot. And then, she encouraged the child to move her hands and feet to respond to others. Miss Amy said that she instructed Julie to use her body language to see if she could raise her hands or kick her feet while listening to sounds or adults' directions. Through her instruction, she hoped the child could understand that she could use her hand to express effective communication.

The teachers noticed that Julie liked to listen to some funny sounds such as "bu:" or "ba bu," or even the sound of balls or toys falling on the ground. Consequently, they often placed a ball or a toy near Julie's hands or feet and encouraged Julie to push or kick away the object. If she moved her hands or feet to touch the object to roll from the mat to the ground and make "don don don" sounds, this would make Julie laugh. That happened just as Miss Amy said, "When we gave her stimuli, she felt like playing and would be willing to move her limbs" (1st interview with Miss Amy, 2/27/07). In this way, Julie

would be willing to move her hands or feet again and again and demonstrate her spontaneous reactions. In addition, the teachers not only encouraged the child to move her hands or feet to push away the toys but also trained the child to follow their directions. For example:

Julie: (<i>pushes the toy away</i>)	Julie: (<i>pushes the toy away</i>)
Miss Amy (→ Julie): 喔! 好厲害 喔! (<i>claps her hands</i>)	Miss Amy (→ Julie): Oh! Excellent! (<i>claps her hands</i>)
Miss Amy (→ Julie): 再一個, 好 不好? (<i>adjusts the position of the toy and Julie's right hand</i>)	Miss Amy (→ Julie): One more time ok? (<i>adjusts the position of the toy and Julie's right hand</i>)
Julie: (<i>lifts her hand to push the toy</i>)	Julie: (<i>lifts her hand to push the toy</i>)
Miss Amy (→ Julie): 還沒有 (<i>stops Julie from pushing away the toy</i>)	Miss Amy (→ Julie): Not yet (<i>stops Julie from pushing away the toy</i>)
Miss Amy (→ Julie): 一、二、三 (<i>gestures one, two, three with her fingers</i>)	Miss Amy (→ Julie): One, two, three (<i>gestures one, two, three</i>)
Julie: (<i>pushes the toy away</i>)	Julie: (<i>pushes the toy away</i>)
Miss Amy (→ Julie): 喔! 好厲害 喔! (<i>claps her hands</i>)	Miss Amy (→ Julie): Oh! Excellent! (<i>claps her hands</i>)

(Transcription #V19, 5/04/07)

In the excerpt above, Miss Amy wanted to teach Julie to control her limbs to push the objects under her control, not just touch it occasionally. During my classroom observations, I found the teachers seldom utilized augmentative and alternative communication (AAC) devices in their communication interventions. Even though Miss Amy thought the use of assistive technology devices would be helpful for teaching children with SMDD to communicate with others, she seldom used it. She explained that children with SMDD might not be able to control the device very well due to their limited ability. Thus they limited the utilization of these devices. The following was a case where Miss Betty implemented a musical toy to guide the child how to activate the toy.

(Miss Betty picks up the toy dog and then puts it under Julie's left hand and pushes Julie's hand to touch the button. The dog barking music plays.)

Miss Betty (→Julie): (*continues to massage Julie's belly*)

(The music stops.)

Miss Betty (→Julie): 哇！沒音樂了。

Miss Betty (→Julie): (*taps Julie's left hand*) 趕快，手手。

Julie: (*moves her right foot*)

Miss Betty (→Julie): (*taps Julie's left hand*) 手手。

Julie: (*moves her right hand*)

Miss Betty (→Julie): 要聽音樂，手手去碰。

Miss Betty (→Julie): 來，手手去碰。 (*holds Julie's hand to push the button*)

(The music plays again.)

Julie: (*turns her head to face Miss Betty and then turns to face her left side again.*)

(Miss Betty picks up the dog toy and then puts it under Julie's left hand and pushes Julie's hand to touch the button. The barking dog music plays.)

Miss Betty (→Julie): (*continues to massage Julie's belly*)

(The music stops.)

Miss Betty (→Julie): Oh, music is gone.

Miss Betty (→Julie): (*taps Julie's left hand*) hurry, your hand.

Julie: (*moves her right foot*)

Miss Betty (→Julie): (*taps Julie's left hand*) your hand。

Julie: (*moves her right hand*)

Miss Betty (→Julie): If you want to listen to the music, use your hand to touch it.

Miss Betty (→Julie): Come, (use your) hand to touch it. (*holds Julie's hand to push the button*)

(The music plays again.)

Julie: (*turns her head to face Miss Betty and then turns to face her left side again.*)

(Transcription #V34, 6/01/07)

In this snapshot, Julie did not respond to the teacher's request, so the teacher again gave her direct physical assistance by holding Julie's left hand to push the button and trigger the music. At that time, Julie was lying on the mat, and the toy was placed on the mat too. It would be difficult for her to lift her left hand and push the button because Julie could not even see the toy. Moreover, Julie's dominant hand was her right hand, so it might have been easier for her to lift her right hand instead of the left to push the button. Further, from the two examples above, it is evident that it would be easier for Julie to use her gross motor skills to push away the toy than to lift her fingers to press the button and activate the music. If the teachers attempt to implement AAC devices to

facilitate the child's communication skills, it is important for them to notice the placement of the devices and the child's body position, as well as her dominant limbs. This point is discussed in the working hypotheses in the next chapter.

Providing tactile and auditory stimulation to allow the child to participate in the activities. According to Miss Betty, Julie had very tense body muscles, and she needed more massage of her limbs and mouth to decrease her sensitive feelings. In addition, Miss Betty also mentioned that Julie might have visual problems but good auditory abilities. So even though the child might not speak up, Miss Betty still kept talking to her and continued giving her the same music to let her gradually get familiar with the sounds. Therefore, she usually let Julie listen to music while she massaged her.

Miss Cathy also mentioned that since young children with SMDD do not communicate very well with others and need more physical assistance, they might also need more training through tactile and auditory stimulation. She said:

肢體上需要協助較多的[孩子]或是認知方面還沒有辦法達到跟老師能溝通的很好的部份，就是藉由視覺或聽覺方面的操作來訓練他們，達到學習的效果。

The child who needs more assistance or who cannot communicate well with the teacher because of low cognition, allows me to train them through vision or audio operation training, in order to reach effective learning.

(2nd interview with Miss Cathy, 6/13/07)

When Miss Cathy guided Julie to draw a picture, she used to hold Julie and allow Julie to sit in her lap. She then told Julie what they were going to do and put the materials before her eyes to let her see what she was talking about. She also touched Julie's mouth or nose to let her know they were going to draw a mouth or nose. However, more often, I found she seemed to use her own body like a big toy which could hold the child, to move

and make funny sounds in order to play with Julie. Julie seemed to enjoy this kind of action as she laughed with her mouth wide open. In this way, Miss Cathy gave Julie direct physical assistance along with her funny sounds to allow the child to feel that she was involved in a drawing activity.

Responding to the child's nonverbal behaviors based on the teachers' interpretation/understanding. Since Julie usually used her nonverbal behaviors, especially facial expressions such as crying and laughing to interact with others, her moods and intentions relied more on others' interpretations. For example, when Miss Amy tried to help Julie to put on her shoes and Julie started to sob, Miss Amy assumed that Julie did not want to wear her shoes and then she stopped to help the child put on her shoes and talked to her, "take it off; you do not wear it." The following illustrates an interaction between Miss Betty and Julie:

Miss Betty (→Julie): 吃飽了，睡覺，好不好？好不好？

Julie: (*smiles and looks at Miss Betty*)

Miss Betty (→Julie): 吃飽了，睡覺，好不好？ (*Miss Betty taps Julie's belly.*)

Julie: (*smiles and opens her mouth a little wider and looks at Miss Betty*)

Miss Betty (→Julie): 好啊！好！[我欲共爸爸講，爸爸講，無人[停上課]咧睏了。

Julie: (*smiles and closes her eyes*)

Miss Betty (→Julie): You are full, sleeping, OK? OK?

Julie: (*smiles and looks at Miss Betty*)

Miss Betty (→Julie): You are full, sleeping, OK? (*Betty taps Julie's belly.*)

Julie: (*smiles and opens her mouth a little wider and looks at Miss Betty*)

Miss Betty (→Julie): OK! a: ok! I will tell [your] father, tell [your] father. No one sleeps in class.

Julie: (*smiles and closes her eyes*)

(Transcription #V23, 5/16/07)

In this snapshot of the interaction between Miss Betty and Julie, I really could not tell if Julie's smile showed her understanding of the teacher, or it was only because of the

teacher's funny tone, her use of Taiwanese, or her talk about her father. Adults' interpretation of a child's nonverbal behaviors helps to actually respond to the child's intentions, which allows the child to continue to respond more. On the other hand, a child's nonverbal behaviors may not be accurately understood by the adults. For example, Miss Amy also mentioned that sometimes she was suspicious of whether Julie's cry was due to her feeling of pain or her need to get others' compassion. Prior research has shown that functional behavior assessment (FBA) helps teachers to realize the meaning of students' behaviors (DiGennaro, Martens, & Kleinmann, 2007; McKinney, Campbell-Whately, & Kea, 2005). Hence, I believe that if the teachers utilized FBA, they would more easily and more accurately understand the child's nonverbal behaviors.

In sum, the teacher participants taught appropriate social communication skills to replace these young children's inappropriate communication language and behaviors. These obviously varied based on the children's communication competence. For young children with verbal abilities, the teachers required more language use and emphasized their literacy. For the nonverbal child with SMDD, the teachers made efforts to enhance her reaction to the environmental stimulation.

Theme 3: Code Switching to Ensure Children's Comprehension

Code Switching to Children's Mother Tongue in Daily Communication

In Taiwan, though the official language used in schools is Mandarin, most people speak Taiwanese as their mother tongue, especially in southern Taiwan. After the change of the political party that ruled the government in 2000, Taiwanese has been also widely used in schools, and the government even uses Taiwanese in formal academic courses in

elementary schools. This study was conducted in Kaohsiung County, which is a Taiwanese-speaking environment. Of the four student participants, only Kevin's parents spoke Mandarin more than Taiwanese at home. Although Julie's parents also spoke Mandarin more than Taiwanese, Julie spent most of her time with her babysitter Mrs. Dora whose family only spoke Taiwanese. The families of the other two student participants, David and Tom, only spoke Taiwanese. They learned to speak Mandarin after they attended kindergarten. Before David and Tom came to this class, they attended a general kindergarten for one year. So, they could understand some Mandarin. According to David's IEP, David came to this class only speaking very simple words which were used in daily communication such as "good-bye, teacher" or "*I want too*" in Taiwanese. Tom spoke Taiwanese most of the time in school. Since David and Tom grew up in a Taiwanese-speaking environment, to them Mandarin would be their second language.

In this study, all Taiwanese speech has been presented in ***Boldface Italics with underline***. During my classroom observation, I found the three teacher participants frequently spoke Taiwanese to David and Tom, and sometimes to Julie as well. In addition, the children also spoke Taiwanese to the teacher. Miss Amy told me that if the child spoke Taiwanese to her, she would reply them in Taiwanese since recently Taiwanese has also been emphasized in the schools' education. Therefore, she thought it was acceptable to use both languages in school. In addition, Miss Amy explained, "most of the children in this class speak Taiwanese at home, so speaking Taiwanese as daily communication would enhance their understanding of teachers' instruction." Miss Betty and Miss Cathy also agreed with this idea. According to data analyses of my multiple

sources of data, three purposes evolved from the sub-theme: code switching to children's mother tongue in daily communication. They were (a) evoking children's attention or motivating the children to be involved in group activities, (b) eliciting children's social communication reactions/responses, and (c) responding to what children say and/or behave. The three purposes will be presented as follows.

Evoking children's attention or motivating the children to become involved in group activities. According to the teachers, these young children could not concentrate for very long, for this reason the teachers had to try many ways to hold the children's attention or motivate the children to become involved in group activities. And speaking in Taiwanese could be helpful to get the children's attention and make them motivated because they might better understand the teachers' intentions. For example when David put his head on the table and did not pay attention to the teacher, Miss Amy asked David **"do you want to be my friend?"** in Taiwanese to motivate him to continue being involved in the class activities. In addition, speaking Taiwanese seemed easier for the children to follow the teachers' commands. The following was the interaction between Miss Betty and Tom.

Miss Betty (→Tom): 你欲[佢我]牽手無?

Tom: 我欲。

Miss Betty (→Tom): 你欲牽手愛細聲講話咧。

Tom: 我會，我會。

Miss Betty (→Tom): **Do you want to my hold hands?**

Tom: **I want.**

Miss Betty (→Tom): **If you want to hold hands, you have to speak softly.**

Tom: **I will; I will.**

(Transcription #V29, 5/30/07)

In the case presented above, both the teacher and the student interacted in Taiwanese; Miss Betty used “hold hands” as a reinforcer, which allowed Tom to feel willing to follow the teacher’s requirement. I was not sure that the teacher achieved the same result when she said “hold hands” in Mandarin. However, from Tom’s response at least we know that Tom understood Miss Betty’s intention. Sometimes, the teachers would rearrange the students’ seats to get the children’s attention. For instance:

David: (*looks at the other side; did not look at the teacher*)

Miss Amy (→Tom): 你佢David換位，好毋好？好！

Tom: (*stands up and walks toward David’s seat which is two seats from his seat*)

Miss Amy (→David): David，你坐我的邊仔，甘好？來。
(*carries David to come to the seat that is by her*)

Miss Amy (→group): 因為我們Tom很厲害，他可以坐在那邊。

Miss Amy (→David): 啊David你要好乖哦！屁股要坐在椅子上。

David: (*looks at the other side; did not look at the teacher*)

Miss Amy (→Tom): Change seats with David. OK? OK!

Tom: (*stands up and walks toward David’s seat which is two seats from his seat.*)

Miss Amy (→David): David, come sit by me. OK? Come! (*carries David to come to the seat that is by her*)

Miss Amy (→group): Because Tom does great, he can sit there.

Miss Amy (→David): David, you have to be good! Put your bottom on the chair.

(Transcription #V18, 5/02/07)

In this situation, Miss Amy tried to get the children’s attention through changing the children’s seats. She frequently code switched her language between Mandarin and Taiwanese, which was a very common interaction I observed in this class. The teachers were not aware of their code switching even when they relied on it greatly in class. It may be because the teachers also grew up in a bilingual environment, and were used to code switching.

Eliciting children's social communication reactions/responses. The teachers spoke Taiwanese not only to evoke children's attention or to motivate the children but also wanted to extract the children's social communication reactions or responses. Miss Amy said:

那像他有一次，我就是發現，跟他說，“我佢你好，”他就笑嘻嘻。[我跟他說]“我無愛佢你好，”他就倒下去生氣這樣。[我]馬上[跟他]就講“我佢你好，”他又笑嘻嘻這樣子。他[改變]很快，然後我才知道你只要這樣子講，他就願意跟你當好朋友，好朋友他就願意聽你的話這樣子。所以我上課這幾天跟他的互動就是我都跟他說“我佢你好，你講，乎你講就好矣。”

One time I told him, “I want to be your friend,” and he laughed happily. I told him, “I don't want to be your friend,” and he fell down to the floor and was angry. I told him immediately, “I want to be your friend,” and he laughed happily again. He changes very fast. Then I realized that whenever you tell him this, he would be willing to be your good friend. If you were good friends, then he would be willing to listen to you. So, recently when I interacted with him, I would tell him, “I want to be your friend, talk, I'll let you alone talk.”

(2nd interview with Miss Amy-2, 6/15/07)

Miss Amy discovered that David liked to be the teacher's friend and was more willing to follow the teacher's direction once they became friends. So she guided the child to talk more by telling him she wanted to be his friend in Taiwanese. Understanding children's characters and language could facilitate the teachers' instruction for increasing the children's attention and motivate them to obey the teacher, and it also allowed the children to be more willing to respond to others.

Responding to the children's speech and/or behavior. Communication is a serious interaction between two or more people. Therefore, in order to continue interaction with each other, speaking the same language is an essential element because it assures that they all understand the context of their conversation. I also observed that, if the children

spoke Taiwanese to teachers, the teachers also tended to speak Taiwanese to them. The case that follows shows how David initiated his speaking to the teacher in Taiwanese.

David: 破去矣! (*points to the workbook*)
Miss Amy (→David): 破去矣, 無要緊。老師等下給你修理, 好不好?
David: (*nods his head*)

David: Broken! (*points to the workbook*)
Miss Amy (→David): It's alright that it's broken. I will fix it for you later, OK?
David: (*nods his head*)

(Transcription #V10, 4/18/07)

According to Miss Amy, if the students spoke Taiwanese to her, she would respond in Taiwanese as well. In the interaction above, David initiates the interaction in Taiwanese, and Miss Amy responds in the same language. David accepts Miss Amy's answer by nodding his head. The following excerpt reflects a similar interaction between Miss Cathy and Tom.

Tom: (*puts his head on the table*)
Miss Cathy (→Tom): 你按怎矣? 你共我講!
Tom: (*lifts his head*) 我手痛! (*puts his head on the table again.*)
Miss Cathy (→Tom): 我幫你撫撫咧!
...
Miss Cathy (→Tom): 手足酸喔! 我撫撫咧! (*Miss Cathy stretches her arms and holds Tom's hand to comfort him.*)
Miss Cathy (→Tom): 好矣!

Tom: (*puts his head on the table*)
Miss Cathy (→Tom): What happened with you? Tell me!
Tom: (*lifts his head*) My hand hurts! (*puts his head on the table again.*)
Miss Cathy (→Tom): Let me soothe you (by moving her hand to and fro on the hurt part of body)!
...
Miss Cathy (→Tom): Your hands are very sore. I'll soothe them (by moving her hand to and fro on the hurt part of body)! (*Miss Cathy stretches her arms and holds Tom's hand to comfort him.*)
Miss Cathy (→Tom): Done!

(Transcription #V14, 5/02/07)

Here the use of a language that was comprehensible to both parties allowed for a serious interaction between the two. In fact, according to my observation, Miss Cathy's comforting Tom's feelings also stopped Tom from escaping from drawing by using the excuse of having a sore hand.

Teaching Mandarin to Promote Academic Learning

In Taiwan almost all the written materials are published in Mandarin. In schools and in working places, people always speak Mandarin, too. For this reason, if the children understand only Taiwanese, this will restrict them from advanced learning. Miss Amy also mentioned that it is necessary for the young children to learn Mandarin because:

新學的辭彙及單元相關圖卡、語句、兒歌、作業說明等，跟銜接小學相關的[課程]需用國語。因為未來大多數的人都是使用國語，所以必須慢慢的回到國語的學習。

The materials, including newly learned phrases, topical pictures, sentences, the child's songs and homework directions, which are connected to the elementary schools' curriculum, have to use Mandarin. In the future, most people will speak Mandarin, so we need to gradually get them back to learning Mandarin.

(E-mail with Miss Amy, 1/04/08)

Consequently, when the teachers delivered information and teaching materials to the students, or if they wanted to check with the children, they usually spoke Mandarin.

Teaching concepts. Improving academic knowledge for the young children would be certainly the primary communication intervention goal of these three teacher participants in working with young children with developmental disabilities. I observed that when they taught academic lessons in small groups, they used to speak in Mandarin. For example, Miss Amy taught Zhuyin Fuhao (national phonetic symbols) in the group.

Miss Amy (→group): 對，放在這邊會變成什麼？(puts Y card

Miss Amy (→group): Right, put it here; what does it look like?

under ㄅ card)
 Miss Amy (→group): ㄅ ㄩː- (.)
 ㄅ ㄩː:: 跟我唸一次。
 Students: ㄅ ㄩː- (.) ㄅ ㄩː::
 Miss Amy (→group): 爸爸- (.) “ㄅ
 ㄩː::”, 喇叭的- (.) “ㄅ ㄩː::”,
 喇叭 (.) ㄅ ㄩː: (.) ㄅ ㄩː: (.) ㄅ
 ㄩː: : (acts like she is blowing
 a trumpet).

(puts ㄩ card under ㄅ card)
 Miss Amy (→group): p a:- (.) pa
 repeat after me.
 Students: p a- (.) pa::
 Miss Amy (→group): Papa (.) "pa",
 trumpet's "pa", trumpet pa: pa:
 pa:: (acts like she is blowing a
 trumpet).

(Transcription #V18, 5/02/07)

In the case above, Miss Amy put two Zhuyin Fuhao (national phonetic symbols) symbols together and pronounced them. Then she asked the children to repeat what she said. This was the common pattern for Miss Amy to teach Zhuyin Fuhao (national phonetic symbols). She believed that teaching the children to recognize Zhuyin Fuhao (national phonetic symbols) and pronounce them was a way to teach the children to talk and also prepare them for advanced study by using the computer for writing, thus enhancing the children's communication competence.

Checking for comprehension. Since the teachers usually delivered instruction in Mandarin, they usually spoke Mandarin when examining whether the children understood the materials.

Miss Amy (→David): David請你去
 指:: 奶奶的杯子 (*gives the
 drum-stick to David*)
 David: (*stands up and walks toward
 the whiteboard*)
 Amy (→David): 奶奶手上的杯子
 , 奶奶手上的杯子。
 David: (*points to the grandmother's
 glasses and then points to the
 cup in grandmother's hand.*)
 Miss Amy (→David): 哦:: David
 好棒哦! (*claps her hands*).

Miss Amy (→David): David, please
 point to:: grandmother's cup.
 (*gives the drum-stick to David*)
 David: (*stands up and walks toward
 the whiteboard*)
 Miss Amy (→David): The cup in
 grandmother's hand. The cup in
 grandmother's hand.
 David: (*points to the grandmother's
 glasses and then points to the
 cup in grandmother's hand.*)
 Miss Amy (→David): Oh:: David,
 Excellent! (*claps her hands*).

In the excerpt above, Miss Amy used Mandarin to ask David to point to the target object. After David pointed correctly, Miss Amy clapped her hands and praised David, also in Mandarin. This was a common pattern for the three teacher participants check for understanding with the children.

In this study the patterns and purposes of the three teacher participants' communication instructions fell into three main themes: (a) managing inappropriate behaviors by providing structure and various strategies, (b) teaching appropriate social communication skills to replace their inappropriate communication language and behaviors; and (c) code switching to support comprehension and academic learning. In these three main themes, I found that the teachers made great efforts to deal with the children's challenging behaviors. They set up class rules and implemented various reinforcements and even code switched to enhance the children's use of appropriate social communication skills. The outcomes of their communication instruction are presented below.

Outcomes of the Communication Interventions

After exploring the three teacher participants' instruction patterns and their purposes of instruction, this section examines the outcomes of the communication interventions. Toward the end of the semester, I had my second interviews with the three teacher participants and asked them their perspectives and feelings, as well as their successes and challenges in working with young children with developmental disabilities including SMDD. They began describing the performance of each child and his/her change during the semester. This preschool special education kindergarten class was just

like a small society, and the three teachers shared the main roles that pushed the class onward. The performances of each individual child were influenced not only by each teacher's intervention but also by the multiple interactions between teachers and students, which could not be separated from one another. Hence, the outcomes of communication interventions for these four children also presented what they learned from the environment managed by these three teacher participants.

The four student participants brought their specific characteristics and family backgrounds along with their different disabilities. The communication intervention goals for these four young children were not only to improve their cognitive comprehension but also to use appropriate social communication skills to interact with others and the environmental stimulation. The young children's learning outcomes, as evaluated by the teachers, were evidenced in the teachers' interviews and reflected in the children's performance during the intervention. These outcomes fell into two main themes: (a) the children were able to respond to the teachers, and (b) the children reduced their challenging behaviors and performed more appropriate language or behaviors.

The Children Were Able to Respond to the Teachers

To determine if the children were able to respond to the teacher, I considered three factors, which were (a) if the children could pay attention or notice the events/objects, (b) if the children were able to follow the teachers' directions, and (c) if the children could express their intentions. If the children could follow the teachers' directions, they should already be paying attention to the events or objects that the teachers mentioned as well. Hence, I chose two dimensions to reflect on the children's

competence of reactions to the adults: one was the children were able to follow the teachers' directions, and the other was the children were able to express their intentions.

The Children Were Able to Follow the Teachers' Directions

When testing if the children could follow the teachers' directions, I would focus on their ability to complete the tasks under the teachers' supervision, and on their ability to make a choice when requested by the teachers. I wanted to see if the children understood the teachers' instructions, if they children were willing to follow them, and they had the capability to perform as instructed.

Working on the tasks under the teachers' demands. Working on a required task is a form of compliance with the teachers' directives. It may not directly relate to communication with others, yet it is a way to verify a child's understanding of adults' intentions and is also a basic element of communication. In this study I observed that whenever Tom was in conflict with others, he was not allowed to play at the playground and he had to enter the classroom to practice writing. The teachers wanted Tom to know he must finish writing a page and then he could go out to the playground to play. Miss Amy expounded:

[我]讓他知道說你必須要把這件[寫字]事情完成，但是他目前沒有出現說他更不喜歡寫字，因為他以前本來就很不喜歡寫字(*laughs*)，他超級不愛作那些事情的啦，對啊，他大概只能寫一個字，他就不要[寫]了，他就覺得他作完了或不想寫了。啊現在可以把整張大概幾個字吧，二十差不多，這樣子的字寫完，所以不錯啊。... 我是覺得兩個功效都有啦，負面的效應我是還沒有感到有啦。

I want him to know that he must finish his writing task. At present, he does not dislike writing any more than previously, but rather his dislike seems to be less. In the past he highly disliked writing. Yes, he probably could only write one character and then would reject writing anymore. He felt he already finished it or he just did not want to write anymore. Yet, at present, he can even write 20

characters. So, it's not so bad. ... I feel it has a twofold efficacy. I have not felt any negative effect.

(2nd interviews with Miss Amy-1, 6/06/07)

Actually, Tom hated to write. Tom wrote because he wanted to go out to the playground. After executing the strategy for the whole semester, Tom spontaneously came into the classroom and began to write once he knew he did something wrong. He even requested what he wanted to write because he wanted to quickly return to the playground to play. Even though this method did not decrease the frequency of Tom's conflicts with others severe conflicts with peers and adults did decrease owing to the requirement of writing.

Making a choice in response to the teachers' requests. Choice-making opportunities provide children the opportunity to make decisions that may affect their daily routines (Jolivette, Stichter, & McCormick, 2002). In our daily life, individuals face constant decision-making choices, such as what foods to eat, how to dress, and even what activities to attend. Whereas people without disabilities regularly make choices in their daily life, those with disabilities may have a more restricted ability to make informed choices and often need training in making selections (Singh, Lancioni, O'Reilly, Molina, Adkins, & Oliva, 2003). Choice-making in this study was defined as the teachers providing opportunities for the young children to make choices among objects or activities, as well as offering opportunities for them to show their acceptance or rejection. In Miss Cathy's art activities, she usually gave the child a pen box and asked him to pick up a colored pen. As Miss Cathy mentioned that, at first, the children might not know how to choose a color and randomly pick up any color they touched; however, by providing some conditions, such as telling them not to choose the same colors again, they

might learn to purposefully choose the colors that they liked. Over time, the three student participants with mild to moderate developmental disabilities gradually came to choose the colors that they liked in drawing.

In this study even though the teacher participants provided choice-making opportunities for the young children to make decisions, they did not leave much room for the children to choose. Actually, most of the time, the teachers already had their own decisions and insisted the children follow them. For example, the teacher usually insisted that children do what she wanted them to do, even though she asked them if they wanted to do it. For the child with SMDD, the teachers provided even less choice-making opportunities for her. They only sometimes asked her, “Is it OK?” The reason might be that the teachers thought that the child lacked the ability to make a choice.

As presented earlier, the teachers tend to use their own interpretation to assume the child’s intentions (see the part of sub-theme: responding to the child’s nonverbal behaviors based on the teachers’ interpretation/understanding). In this study I did not observe that the teachers offered many choice-making opportunities to the children, except choosing colored pens in Miss Cathy’s art activities. However, teaching children to make choices is an essential function for the children with developmental disabilities to express their basic intentions and to ultimately develop their capabilities for self-determination (Durand, 1999; Lancioni, Singh, O’Reilly, & Oliva, 2004; Schepis et al., 1998).

The Children Could Express their Intentions

While looking to see if the children could express their intentions, I centered my interest on observing if the children exhibited spontaneous or initiative language or

behaviors or if they could respond to the teachers' questions (not including yes-no questions) or requests through language or body movements. For verbal children, I would observe if they used language to make requests or to respond to the adults. For the child with SMDD, I noticed if she could respond to adults with her body movements.

Exhibiting spontaneous or initiative language or behaviors. Children with developmental disabilities tend to exhibit passive interaction with others due to their limited communication competence (Egel, 1981; Rincover et al., 1977; Schepis & Reid, 1995). Establishing children's spontaneous or initiative language or behaviors is the essential target of communication interventions (McCathren, 2000). In this study, two of the student participants were verbal but they used different ways to express their intentions. For example, David tended to use his body language, such as nodding his head or pointing to objects to communicate with others. For example, one morning when I entered the classroom, David was eating his snack. Later, he finished his drink and went to wash the bottle. I told him, "You are so good to finish your drink and wash the bottle." He gave me his bottle, and I asked him, "Where do you want me to put it?" He pointed to a basket on top of the closet, which was the place to put the recycled bottles (Field notes, 4/27/07). During the interaction, David did not say a word to me; he only used actions, such as giving me his bottle and pointing to the place that he wanted me to put it.

David not only spoke infrequently but also had very unclear speech. Usually when he did speak, his initiative language was Taiwanese. So only the people who were familiar with him would understand his language. Therefore, sometimes there was miscommunication between teachers and David. One of the examples was this snapshot of the interaction between David and Miss Cathy:

David: 阿阿:
 Cathy (→David): (*shakes her head*)
 聽不懂
 David: 阿水
 Cathy (→David): 我聽不懂
 David: ‘奚’ (*hands play with the paper*)
 Cathy (→David): 我聽不懂
 David: ‘奚’
 Cathy (→herself and others): 他三次都講一樣，但是我聽不懂。

...
 David: (*turns his waist to get watercolors*)
 Cathy (→herself and others): 他還是要用這個，他就是要用這個
 Cathy (→David): 好！來！ (*brings the watercolors*)
 Cathy (→herself and others): 水，喔喔！我知影矣，伊是講他欲用水彩。

David: Aa:
 Cathy (→David): (*shakes her head*) I cannot understand.
 David: ‘Adui:’
 Cathy (→David): I cannot understand.
 David: ‘Hey:’ (*hands play with the paper*)
 Cathy (→David): I cannot understand.
 David: ‘That’
 Cathy (→herself and others): He spoke the same thing three times, but I can not understand.

...
 David: (*turns his waist to get watercolors*)
 Cathy (→herself and others): He still wants to use this. He insists to use this.
 Cathy (→David): Ok! Here you are! (*brings the watercolors*)
 Cathy (→herself and others): Water, Oh, Oh:., I know it. He said he wanted to use watercolors.

(Transcription #V22, 5/16/07)

In this excerpt, David spontaneously expressed he wanted to use water colors to paint his picture though Miss Cathy took much time to figure out his meaning. That might be because Miss Cathy spent less time working with David because she only gave individual instruction for the young child to draw pictures once a week. However, he exhibited more confidence to speak. Miss Amy described during break time David frequently came to call the teacher and wanted her to play with him.

Julie, the child with SMDD, seldom used pointing to recognize others. Yet, when she saw her father, there was an obvious reaction. She would relax and laugh. One time

she also initially showed her compassion to her babysitter, while she listened to her babysitter cough. Miss Amy said,

甚至有一次，... 因為Mrs. Dora在咳嗽，然後她 [Julie]就轉過[頭]去看她 [Mrs. Dora]，然後 [Julie]就哭，就是**匿嘴**的樣子，然後Mrs. Dora不是真的咳嗽，她是**哽著**，她 [Julie]就看一下，就要**匿嘴**。然後Mrs. Dora沒有咳嗽，她就轉回來，又咳，她又看一下，又**匿嘴**。她好像就覺得說，你怎麼了，好像感覺說她好像有那種憐憫心還是同情心出來，她就想哭這樣子。

One time ... Mrs. Dora was coughing, and [Julie] turned her head to look at [Mrs. Dora]. And then [Julie] cried, that is ***lips closed tightly. (almost burst out crying)***. Mrs. Dora did not really cough but ***choked***. Julie looked at Mrs. Dora with ***lips closed tightly. (almost burst out crying)***. When Mrs. Dora stopped coughing, Julie turned her head back. Mrs. Dora coughed again and Julie turned her head to look at her again with ***lips closed tightly. (almost burst out crying)***. She seemed to ask, what is happening to you? Julie's sad face seemed to have compassion or sympathy for Mrs. Dora.

(2nd interview with Miss Amy-1, 6/06/07)

According to the teachers, Julie could feel whether it was a good intention or not.

And she could show her feelings through laughing and crying. In the above example, Miss Amy described that Julie showed her compassion by turning her head to look at Mrs. Dora with a sad face.

Responding to teachers' questions/requests through language or behaviors.

Effective communication between two persons is sustained if they can respond appropriately to each other. In this study I focused on whether the children could respond correctly to teachers' questions/requests through language or behavior. Here, I excluded the teachers' yes-no questions, which I included in the portion of choice-making. In this study, Tom was the student participant who could use his language more than other students to respond to the teachers' questions. For example, as I have discussed about

Tom and Miss Cathy's interaction, Tom said his hands hurt when Miss Cathy asked him what happened with him".

As I presented in the portion of doing knowledge check with children (see Code switching to improve children's comprehension), the teachers usually examined the children's understanding through asking the children to point to the objects. If they pointed to the right objects, this meant the children understood the teachers' language directions. This was the common pattern of the children responding to teachers' questions/requests.

In Julie's case, the teachers tried to teach her to listen to their directions, and she could respond to them through her body movements. For example, Julie lifted her hand to push away the toy when the teachers said so. However, the outcomes were mixed, according to Miss Amy. It relied more on her body condition. Julie might respond more if she was in a good mood and physically healthy. This semester, Julie had pelvic displacement problems that caused her pain when someone touched her feet, so she cried a lot in school, which impacted the teachers' instruction. In addition, I think the teachers did not provide suitable assistive technique (AT) devices nor did they teach her to respond to the environmental stimulation. As I discussed beforehand, Miss Betty asked Julie to lift her left hand to activate the musical toy and Julie did not respond to her, so Miss Betty directly held Julie's left hand to push the button. The teacher did not appear to know how to teach Julie, using AT devices because she misplaced both the toy and the child's body position.

Mixed Outcomes in Managing Children's Challenging Behaviors

The four student participants displayed various challenging behaviors, which kept the teachers very busy in dealing with their inappropriate behaviors during academic teaching. The teachers provided many strategies to manage children's inappropriate behaviors and taught them appropriate social communication skills. They even code switched their language to Taiwanese in order to enhance the child's comprehension.

At the end of the semester of my observations, Kevin, the child with autism, still utilized screaming to express his intentions. However, Miss Amy mentioned that she could understand more of the meanings of Kevin's screaming, and she could help him solve his problems quickly. Once Kevin's problem was solved, he could calm down at once. Although Kevin did not increase his use of language to communicate with others, he improved in recognizing the Chinese characters. I did not find the teachers taking advantage of Kevin's strength, nor did they make communication cards to allow Kevin to point to the cards that properly show his intentions and thus replace his screaming or making noise. The teachers insisted Kevin had to use his language to talk even though Kevin did not like to talk.

After an entire semester of communication intervention, sometimes David still lost his patience quickly and engaged in tantrums. Yet the teachers realized that he liked to get others' attention and could not handle when others told him any negative words. So, the teachers frequently praised him and told him "***they want to be his friend***" in Taiwanese. Thus, the teachers' accepting attitude not only allowed David to enjoy going to school but also increased his initial language, so that he had more confidence to talk.

Tom, the child with ADHD, exhibited more challenging behaviors than the other students. Even Miss Betty mentioned that Tom was the one giving her most of the challenges. Still, compared to the time he attended this class, he made much progress. Miss Amy pointed out, “The fact that he sits over there in class is a great improvement over the first day we saw him” (2nd interview-A with Miss Amy, 6/06/07). By the end of the semester, Miss Amy observed that Tom made much progress in using appropriate words and manners to communicate with others. She illustrated:

Tom他剛開始來的時候跟現在，我是覺得他有進步啦，就是在禮貌上面，還有就是正常跟人家溝通的語言有比較好。... 那種奇怪的語言就比較少，像他現在講髒話的機率，除非他很生氣他才會講，要不然平常已經沒有很常常聽到。

I feel like Tom is making progress compared to the time when he first came to this class. He made progress in his manners and speaks more normal language to communicate with others. ... He speaks less strange language. For instance, he seldom speaks dirty words except when he is very angry. Otherwise, most of the time, I seldom hear him speak dirty words.

(2nd interview with Miss Amy-1, 6/06/07)

As I described in an earlier theme, Tom swore a lot in Taiwanese when he transferred to this school. The teachers tried to re-direct Tom’s speaking of dirty words by teaching him to speak the right words (see Theme 2: Teaching Appropriate Social Communication Skills to Replace their Inappropriate Communication Language and Behaviors). The teacher frequently reminded Tom to keep his good manners when talking with others. Miss Amy mentioned:

然後[我們]常常提醒他之下，他就會記得講有禮貌的話。要提醒他啦，啊但是至少他會講，他願意講，他有講，偶爾他也會講對了，那這樣不錯了。... 我們現在已經在慢慢的糾正他，就是慢慢的慢慢的他越來越文明了這樣子。

Then we often reminded him and he would remember to speak polite language. He needs others to remind him, but at least he is willing to speak it. He speaks and

sometimes he would speak right. That would not be bad. ... At present we are gradually correcting him, and he is getting more civilized.

(2nd interview with Miss Amy-1, 6/06/07)

By the end of the semester, Tom did not speak dirty words even though he was angry. As I said before, Miss Amy insisted that the reward was only given to the one who behaved. The following was their interaction.

(After Miss Amy gave Kevin a gift, she took the gift box down to the floor.)

Tom: 我也要

Miss Amy (→ Tom): 你要十張呀
! (*points to Tom's tokens*) 這邊
有沒有十張[tokens]啊?

...

Tom: (*beats on the table and kicks his feet*)

Miss Amy (→ Tom): 你要敲桌子
，那我不要[給你禮物]了，
Tom.

...

Tom: (*puts his head on the table and cries*)

...

Miss Amy (→ Tom): (*with a soft voice*) 你喜歡東西要用好的
方式去拿對不對? 哭哭也沒有，
還是沒有對不對? (.) 生氣有
沒有? (..)

Tom: (*looks at Miss Amy*)

Miss Amy (→ Tom): 我看你沒有
生氣，我給你一個星星。

Tom: (*looks at Miss Amy while she gives him a star on the board*)

Miss Amy (→ Tom): 給你一個機會
哦!

Tom: [耐心忍術[像忍者龜的功夫]

Miss Amy (→ Tom): 如果你有[五-
，耐心忍術，對!

Tom: 嗚，怕怕

Miss Amy (→ Tom): 耐心忍術喔

(After Miss Amy gave Kevin a gift, she took the gift box down to the floor.)

Tom: I want too.

Miss Amy (→ Tom): You have to get
ten tokens (*points to Tom's tokens*)
Have you gotten ten tokens yet?

...

Tom: (*beats on the table and kicks his feet*)

Miss Amy (→ Tom): If you want to
beat the table, then I will not
give you the gift, Tom.

...

Tom: (*puts his head on the table and cries*)

...

Miss Amy (→ Tom): (*with a soft voice*)
If you like the objects, you have to
get it using good manners, right? It's
no use to cry, it's no use, right? (.)
Will you get it when you are angry?
(..)

Tom: (*looks at Miss Amy*)

Miss Amy (→ Tom): I see you are
not having a tantrum. I'll give you
a star.

Tom: (*looks at Miss Amy while she gives him a star on the board*)

Miss Amy (→ Tom): I'll give you a
chance.

Tom: [patience skill [as Kongfu in
Ninja Turtles.]

Miss Amy (→ Tom): If you have
[five- , patience skill, right!

，好!

Tom: Wu::, scare

Miss Amy (→ Tom): patience skill,
good!

(Transcription #V35, 6/06/07)

In this dialogue, Tom did not get the object that he wanted. He beat on the table and kicked his feet and then cried, but he did not swear and even told himself to have patience, which gained Miss Amy's praise. Tom still performed many challenging behaviors, such as easily having a tantrum or having conflicts with peers frequently at the end of the semester. But he behaved with more self-control and used appropriate language more willingly to make requests when the teachers prompted him. The following snapshot of the interaction between Tom and the two main teachers illustrates his progress:

(Tom wants to pick up the blocks)

Miss Amy (→Tom): 對不起，你沒有先問。

Miss Betty (→Tom): 說，我幫忙收好嗎？

Tom: 我要幫忙收。

Miss Amy (→Tom): 對不起，你要先嘴巴講，才能動[手]，你沒有先問。

Miss Betty (→Tom): 說，我- 我幫忙收，好嗎？

Tom: (*looks at Miss Amy*)

Miss Amy (→Tom): 老師請讓我收拾。

Tom: 幫忙收拾

Miss Amy (→Tom): (*lifts up Tom's head to look at her*) 老師請讓我收。

Tom: 請幫我收。

Miss Amy (→Tom): 讓我

Tom: 讓我

(Tom wants to pick up the blocks)

Miss Amy (→Tom): Sorry, you did not ask first.

Miss Betty (→Tom): Say, may I help to pick them up?

Tom: I want to help to pick them up.

Miss Amy (→Tom): Sorry, you have to speak first and then do it. You did not ask first.

Miss Betty (→Tom): say, may I- May I help pick them up?

Tom: (*looks at Miss Amy*)

Miss Amy (→Tom): Teacher, please let me pick up the blocks.

Tom: help to pick them up.

Miss Amy (→Tom): (*lifts up Tom's head to look at her*) Teacher, please let me pick them up.

Tom: please help me pick them up.

Miss Amy (→Tom): let me.

Tom: let me.

Miss Amy (→Tom): OK, I will let you pick them up.

Miss Amy (→Tom): 好，我讓你收

(Transcription #V32, 5/30/07)

。

Here Tom wanted to be involved in helping pick up the blocks after they played with them. Miss Amy stopped him from doing it in order to teach him to ask in an appropriate manner. Tom's performance showed that he slowly was becoming more polite at the end of the semester.

Julie was the only child with SMDD. By the end of the semester, according to the teachers, Julie had increased her sensitive response toward the outside environment, and she used laughing and crying to express her likes and dislikes. Although the teachers tried to teach her to lift her hands or feet to communicate with others, she did not do so very often. She even cried a lot to show her resistance or bad moods. Thus, Miss Amy mentioned that she felt powerless about helping Julie respond to environmental stimulation.

Summary

In this chapter the findings were presented under two main topics: the patterns and purposes of teachers' communication instructions and the outcomes of the communication interventions. Three themes occurred on the patterns and purposes of teachers' instructions, and they were (a) managing children's inappropriate behaviors by providing structure and various strategies, (b) teaching appropriate social communication skills to replace their inappropriate communication language and behaviors, and (c) code switching to improve children's comprehension.

The outcomes of the communication interventions were derived from examining if (a) the children were able to respond to the teachers, and whether (b) the children

reduced their challenging behaviors, and exhibited more appropriate language/behaviors. The outcomes of the communication interventions were mixed by the end of the semester. For example, Kevin reduced his screaming because the teachers understood him more. David had more confidence to talk because the teachers in this class accepted him, and it also made him eager to go to school. Tom was getting civilized with more polite manners to communicate with others. Julie, the young child with SMDD, “talked” through her nonverbal behaviors such as laughing and crying to express her intentions or concerns. However, her physical condition impacted her reactions a lot. The themes in this chapter presented the findings of the current study. These findings are discussed in the following chapter, and implications for future practice, teacher education and research are presented.

CHAPTER SIX: DISCUSSION AND CONCLUSION

To understand the nature of communication between teachers and students during communication intervention activities and how the interactions influenced the responses of both teachers and students, I narrowed the broad question into three guiding questions. They were: (a) How did the teachers interact with young children with developmental disabilities including SMDD? (b) Why did the teachers choose certain types of responses and strategies/techniques during interventions? And (c) what were the outcomes of the communication interventions for young children with developmental disabilities including SMDD? After merging analyses of multiple data sources, the themes that emerged captured the three teacher participants' instruction patterns and purposes, as well as the outcomes of the communication interventions. These emerging themes highlight the fact that the three teacher participants made great efforts to shape the young children's learning attitudes and habits. Yet, how they responded to the individual child was varied in terms of the young children's disabilities, their capabilities of communication, and their specific challenging behaviors. The teachers' concerns for the young children's utilization of appropriate social communication manners were influenced greatly by their own their professional training and perspectives which appeared to be influenced by Chinese culture and Confusion's philosophy. What became evident as the study progressed was that the teachers' instructional decisions and academic expectations for the young children with developmental disabilities including SMDD were shaped not only by their personal experiences, but also by their understanding of the young children including their disability levels (e.g., mild

disabilities to severe multiple developmental disabilities), family backgrounds such as language used (e.g., some family members spoke Taiwanese at home) and parental cooperation (e.g., some parents did not teach the child to use appropriate language for social settings).

Considered together, the findings of this study underscore the importance of teachers' understandings of children with developmental disabilities including SMDD. Without such understanding these teachers were likely to (a) give wrong responses or inaccurate interpretations for children's nonverbal behaviors, (b) design inadequate lesson plans for these young children, and (c) feel powerless about improving the reactions of children with SMDD.

In this chapter, I first offer a discussion of the teachers' backgrounds and perceptions related to their instruction patterns and goals in the form of working hypotheses, or "general statements applicable to the specific context under investigation" (Erlandson et al., 1993, p.61). I conclude with implications for future practice and research and a summary of the utility of the findings.

Working Hypotheses

During the research process, the hypotheses were formulated and reshaped as I generated and analyzed data and discussed them with peer debriefers. Three such working hypotheses are presented for the discussion of findings.

Working Hypothesis 1: The teachers' special education practices in the classroom and their interactions with students reflected their special education preparation but were moderated by their perspectives and previous personal and professional experiences related to early childhood special education.

Research has shown that factors contributing to teachers' selection and implementation of social communication interventions as well as their decision making for interactions with their students involve the teachers' education and training background, their professional knowledge and competence, as well as their perspectives of teaching young children with developmental disabilities including SMDD (Chen & Turner, 2003; Hsueh, 2003; Kaczmarek et al., 1996; Kang, 2001; Wang, 2004). The findings of this study, confirming the results of prior research, found that the three teacher participants exhibited some similar yet various styles in implementation that were influenced by their own special education training, their previous personal and professional experiences related to early childhood special education, and their perspectives.

Special education training provides teachers to have basic special education knowledge in teaching special classes. However, to be an effective special education teacher should have to continue growing in their professional knowledge, in their commitment to teaching, and increasing their competence (Lin, & Gorrell, 2001). In this study, both Miss Amy and Miss Betty completed 40 credit hours of special education training at same time. At that time, Miss Amy, already had six-years of teaching experience in special classes. Meanwhile, she also received her Master's degree in Psychology while getting special education training. Miss Cathy, the senior special education teacher took one year special education before she taught special classes. During her more than 30 years in teaching special education students, she also accepted many in-service special education training. In contrast, Miss Betty had more than 15 years experience in teaching general students before she took special education training

and later became a special education teacher to teach in this special class since four years ago. Compared to Miss Amy and Miss Cathy, Miss Betty had less experienced in teaching students with special needs.

Based on the teachers' educational background and intensive work experience in special education, both Miss Amy and Miss Cathy displayed that they were very familiar with young children with disabilities. And I observed that they carried out their teaching materials in a more flexible way than Miss Betty. However, Miss Betty approached this special education class with general education teaching methods and she found her lesson plans were not suitable for her students with developmental disabilities. She also realized that actually, these young children with developmental disabilities are in fact her teachers, who taught her how to work with them. Hence, even though Miss Amy and Miss Betty had the same training of special education, they understood the young children with developmental disabilities differently. Miss Betty's prior working experience in general class seemed restrict her flexibility in designing and implementing adapted lesson plans for young children with developmental disabilities. The results of this study are consistent with other research showing that new special education teachers do not always feel prepared, nor do they have the skills in teaming and collaborating to teach children with developmental disabilities including SMDD (Chen & Turner, 2003; Schuum et al, 1994).

Moreover, a teachers' understanding of the students determined their decision making when they designed their lesson plans for these young children with developmental disabilities including SMDD. When analyzing the perspectives and feelings of these teacher participants, I found that there was a common agreement among

the teachers' perspectives regarding their instructions, which was teaching based on individual differences. For instance, Miss Amy indicated that her instruction was based on the children's various differences. Miss Betty expressed that her teaching was diverse according to the children's disability level. And Miss Cathy also declared that she would understand the children's capability level, strength and weakness first and then design her lesson plans for them. Hence, the teachers would first realize the children's capability levels, strengths and weaknesses while designing and implementing their lesson plans. This finding supports Kraker's (2000) study which claims teacher's knowledge of his/her students' academic needs motivated his/her instructional goals.

A teacher's beliefs regarding how language and classroom contextual factors influence his/her language of instruction--that is, how he/she taught (Kraker, 2000). In this study the teachers' instruction language/behaviors including their implementation of positive reinforcement, corrections, task organization, and expansion of ideas, and monitoring of the students' performance were consistent with previous research (Kraker, 2000). Also, the students' performance was gradually shaped by the teachers' instruction language/behaviors that were integrated into teacher-student discourse (Kraker, 2000). Demanding that Tom work on writing once he did something wrong would be an example of shaping the student's performance because, by the end of the semester, Tom was able to spontaneously working on his writing task when he knew he did wrong.

Teacher's attitudes also extremely influence their decision-making in teaching (Fuchs, Fuchs, & Phillips, 1994). In this study Miss Amy felt happy in teaching special education students because she had more control due to the smaller number of students and her deep knowledge of each student. She kept a positive attitude toward the students

with disabilities for she felt that in this society there are different people with different abilities and that people with more abilities can do a higher-level job and those with fewer abilities do a lower-level job. A person can live happily as he is willing to do his job, take responsibility, and do not hurt others (2nd interview with Miss Amy-1, 6/06/07). So, she felt no need to blame the children and always encouraged the children to do the work that they can do with their best.

The teachers believe that early childhood education is an important learning stage of a person. For instance, Miss Cathy valued the importance of early childhood education as she said, “If a child learns well during kindergarten, it will have good efficacy in the future” (2nd interview with Miss Cathy, 6/13/07). Her belief consistent to what Bush said, “The ages between birth and age 5 are the foundation upon which successful lives are built” (as cited in U.S. Department of Education, 2005). Miss Cathy thought it would be more important to know how to help the children with developmental disabilities than to label what kind of disabilities they are (2nd interview with Miss Cathy, 6/13/07).

In addition, teachers’ awareness of their own limitation should assist themselves to find outside resource to fill in their own insufficiencies. Miss Cathy expressed that it is an important effort for a teacher to expand and utilize his social relationships with others in order to find helpful resources to facilitate his teaching because after all, a teacher has his limitations (2nd interview with Miss Cathy, 6/13/07). She mentioned before she retired, she was a home-education service teacher. She asked for other teachers’ help and invited their children in general class to come to play with her home-education students in order to facilitate her students’ learning of communication (2nd interview with Miss Cathy, 6/13/07).

Building a good relationship between a teacher and a student is the priority for initiating any intervention. Then, it will work better and more easily to get them on the right track (2nd interview with Miss Amy-2, 6/15/07). Based on the understanding of their students, the three teachers all expressed that they accepted who the children were and tried to help them to reach their optimal achievements. This might be also the reason why these teachers were willing to teach children with special needs and even enjoyed working with them.

Working Hypothesis 2: Teachers' perceptions of students' capabilities and behaviors resulted in the mismatch between the children's educational needs and the instructional foci.

To design a student's IEP, according to Taiwan *Special Education Law Executing Regulation*, the people who are involved in designing a student's IEP should include the school administrators, teachers, student's parents and related specialists (Ministry of Education of the Republic of China, 2002). However, the real practices were different with the regulation. Regarding design students' IEPs, according to Miss Amy, she would discuss with her co-teacher, Miss Betty, and then she would write some students' IEPs and Miss Betty wrote IEPs for the rest of the students. According to Miss Amy, with her long-time teaching experience (11 years taught in special classes and 2 years in general class), she thought the use of children's capability checklist (by Taiwan Ministry of Education as mentioned in chapter four on IEPs) was the easiest way to design students' short-term goals, based on the student's capability instead of the subject areas, because the preschool children in special education generally develop slowly (E-mail with Miss Amy, 1/04/08).

In Taiwan specialized teams provide students with disabilities speech, occupational and physical therapies and counseling from preschool to 12th grade (Ministry of Education of the Republic of China, 2002). The therapists came to this class once or twice a month. When they came to this class, they could pull out the children from their group one by one and give each child individual instruction. The main teachers, Miss Amy and Miss Betty, however, were busy teaching other students and were not involved in the therapists' instructions. Sometimes, the therapists would give the teachers some suggestions, but Miss Amy and Miss Betty did not fully incorporate their suggestions in their instruction because they did not really know how the therapists did it.

After they designed the children's IEPs, they would have an IEP meeting with the parents. However, the teachers reported that most of the parents did not share their opinions about their child's educational goals or instruction. The reasons why the parents did not express many opinions would be that the parents agreed with the teachers' IEP design for their children, or the parents under the influence of Confucianism, tended to respect the teachers' authority, especially in rural towns of Taiwan. (The Taiwanese cultural issue I will discuss in the following working hypothesis). In addition, the parents' social economic status might be a factor to influencing them to express or not express their opinions.

Although the regulation requires that specialists be involved in designing IEPs, in reality, the specialized team provided direct individual service for the students only one or twice a month. Therefore, the actual execution of designing students' IEPs seemed to fall on the two main teachers and others only came to approve it. Therefore, in this study

the students' IEPs would more likely design based on the teachers' perceptions of students' capabilities and behaviors.

This results of this study found that the student participants exhibited different challenging and inappropriate behaviors while the teachers focusing on teaching the children literacy, which caused the teachers' instructional time to be taken up with managing challenging and inappropriate behaviors. All the teacher participants had the perception that communication interventions were equal to teaching the children literacy, so they emphasized young children's learning early literacy including recognizing and writing the numerals and Zhuyin Fuhao (national phonetic symbols). However, as discussed above, the teachers expressed that their instruction were based on their understanding of the students' strength and weakness. Only understanding the students' strength and weakness seemed not enough for the teachers to manage children's challenging and inappropriate behaviors/language.

After the whole semester, Miss Amy felt that she did not understand the nonverbal behaviors of the child with autism quickly enough and when she did better understand him, it was almost the end of the semester. In addition, as I discussed in chapter five, the teachers tend to respond to the child's nonverbal behaviors based on their own interpretation/understanding. Yet, a child's nonverbal behaviors may not be accurately understood by the adults. For example, Miss Amy also stated that sometimes she was suspicious of whether Julie's cry was due to her feeling of pain or her need to get others' compassion. In addition, Tom swore a lot and conflicted with others very often. According to the teachers, they thought Tom's challenging behaviors were due to his disability with ADHD.

To deal with children's challenging behaviors, existent research has shown that functional communication training (FCT) is effective in increasing children's initiative communication and decreasing their challenging or undesirable behaviors (Drasgow, 1997; Drasgow & Halle, 1995; Durand, 1999; Selinske et al, 1991; Su, 2002). It has been used to train children to substitute new appropriate social communication skills for their challenging behaviors (Drasgow & Halle, 1995; Durand, 1999; McCormick et al., 1997). Functional communication training is based on the hypothesis that problem behavior such as screaming may be a form of communication. It involves two components: (a) identifying the function or purpose of an individual's non-productive behavior (e.g., scream) by conducting a functional analysis or functional behavior assessment (FBA), and (b) by teaching an appropriate communication skill that may serve the same purpose for the individual (Association for Science in Autism Treatment, 2008). For example, if the function of an individual's behavior of screaming has been identified primarily as a way to get out of his undesirable situation, then the instructor might teach the child to tell the teacher by speaking, pointing, or gesturing when the environmental stimuli are too noisy for him, rather than screaming.

Therefore, I suggest that the teacher participants in this study might apply functional analysis or functional behavior assessment (FBA) in the future once they realize they cannot understand the children's nonverbal behaviors. They might find the reasons more easily for the children's challenging behaviors which might thus help them solve their problems immediately. And later, they may employ FCT to train the children utilizing appropriate behaviors to replace their challenge behaviors.

In this study functional communication training was not systematically implemented by the teacher participants during their instruction. Miss Amy applied some of the techniques of FCT, when she realized that Kevin's screaming was due to his anger with Tom's interruptive behavior. She pointed out Tom's responsibility for the problem and also told Kevin that he needed to use his language to speak up. However, she only stopped/reduced Kevin's screaming through helping him solve his problem but did not train him to use an appropriate way such as speaking up or pointing to the word cards to tell the teacher of his intention.

One of the factors contributed to the teachers' not executing FBA and FCT in managing students' challenging or inappropriate behaviors could be due to teachers' strong beliefs which were influenced by Taiwanese-Chinese cultural value. This will be discussed in the following working hypothesis. Another factor may be the fact that teachers were not familiar with the implementation of FBA and FCT in classroom even though they have learned it in special education courses. Another factor may be that the special education law in Taiwan did not state that the special education teachers should use FBA to write students' behavior intervention plans, even though Taiwanese special education follow some of the U.S. IDEA (Individuals with Disabilities Education Act Amendments of 1997). Besides, low expectations for the children with SMDD would also be another factor which contributes to the teachers' not implementing FBA and FCT.

An obvious instance which evidenced the teachers' low expectations is Julie's case. Julie was the student participant with SMDD in this study. The three participants had similar perspectives in working with Julie. They all believed the idea that the less capable child could not learn as much of the advanced materials. They all provided

individual instruction for Julie because they thought she lacked ability to join the group activities. Some common instruction methods emerged from the three teacher participants' interventions. For example, they all had to comfort the child's unpleasant moods during instruction. In addition, they all gave abundant tactile and audio stimulation to evoke the child's spontaneous reactions. Miss Amy added that they tried their best to accompany the child, give her massages, talk to her, let her practice body actions, listen to music, watch pictures or took her to experience different temperatures, sounds and smells. Miss Cathy also stated that it was difficult to have Julie really draw something, but she allowed her to take part in the art activity and experience the learning of drawing. As a result, they had lower learning expectations for the young child with SMDD than for the other children with mild to moderate developmental disabilities. They thought the child with SMDD could not learn advanced knowledge. In addition, they persisted in the opinion that they could not teach this child due to the child's extreme limitation of her body movements and her physical condition. Their idea about the children also influenced the teachers' instructional decisions.

The teachers' low expectations also led to limited use of AT, but it could be also possible that because they didn't use AT devices, they were unable to tap Julie's potential for communication, and to use FCT to teach her how to communicate with others. It is possible that this also contributed to lower expectations for Julie. Their low expectations for the child with SMDD could result in the mismatch between the children's educational needs and the instructional focus on literacy and academics, limited use of available AT devices, and use FBA/FCT to teach the child how to communicate.

Utilizing augmentative and alternative communication (AAC) systems and various types of microswitches can facilitate the social communication skills of children with disabilities, especial for children with SMDD (Daniels et al., 1995; Lancioni, O'Reilly, et al., 2003). Studies using assistive techniques are concerned more with children's functional communication (e.g., pointing to pictures to express one's intentions), not necessarily verbal communication (Kaiser & Lora 1995; Lacono & Duncum, 1995; Liao, 1996). Many studies have shown that microswitches and some other assistive technologies (AT) are successful tools for assisting children with SMDD to communicate and interact with their environmental stimuli (Daniels et al., 1995; Lancioni, O'Reilly, et al., 2003; Lancioni, O'Reilly, Singh, et al., 2004). Once children with SMDD learn to use AT to communicate with others, their initiation interaction behaviors will increase thus decreasing their challenging behaviors (e.g., crying, temper tantrum, aggression, self-injury).

Although the utilization of assistive techniques has been found effective in improving some social communication skills for children with developmental disabilities including SMDD, it is not applied broadly by teachers in their teaching settings (Wang, 2004). One of the factors preventing teachers from implementing assistive technologies during their intervention may be that the teachers may have this knowledge but lack effective classroom practice and training in using the AT devices. For example, although Miss Amy agreed that the assistive technology devices were helpful for Julie to communicate with others, she did not utilize them often because she thought it was too difficult for the child to touch the switch to activate the devices due to her poor ability to control herself.

In addition, it seemed that Miss Betty did not know how to place the toy in a suitable way for the child to implement. For example, I observed that Miss Betty placed the toy on Julie's left hand but Julie's dominant hand was her right hand. So, Julie moved her right hand instead of her left hand while Miss Betty encouraged her to touch the toy. By the end of the semester, in my second interview with Miss Amy, she mentioned that, regarding to the reaction of the child with SMDD, she felt somewhat helpless to improve Julie's communication responses. In addition, she felt Julie's limited progress was all due to her own physical growth, which apparently is an easy assumption.

Consequently, little or no consideration of FBA and FCT and the utilization of assistive techniques appeared to have limited the teachers' implementation of effective social communication intervention.

Working Hypothesis 3: The Taiwanese cultural context had a mediating and mixed effect on the communication intervention program implemented by the teachers.

Two major principles of Taiwanese cultural values appear to be reflected in the findings: one is the emphasizing deference to the group and parental authority and teachers' teaching in order to follow social norms (Chao, 1994; Lin & Fu, 1990); another is emphasizing children's academic achievement and pay great pressure on their children's academic learning (e.g., Huntsinger et al., 1997; Rosenthal & Feldman, 1991; Stevenson et al., 1993). Considering this cultural context may provide better understanding of the mutually influenced interactions between the teachers and the children.

In this study, while the teachers tried to understand and deal with the children's challenging behaviors, conflicts often occurred between teachers and these young children. It might seem that the problems were initiated by the children's behavior;

however, the interactions were mutually influenced between the teachers and the children. For example, the children's inappropriate behaviors elicited the teacher's negative emotions; when the child kept interrupting the teacher's teaching, she rebuked him. Thus, the teacher's reaction evoked the child scolding her with dirty words, and that made the teacher even angrier. Many issues arose from the interaction between teachers and children while the teachers were dealing with the children's inappropriate behaviors.

First, for the child, why did the child swear? Where and from whom did he learn such language? Why did he respond to others in inappropriate ways? What happened to the child before he transferred to this class? I found the teachers only focused on the child's challenging behaviors, and they thought the child's problems were because of his disability. Second, for the teachers, why did they insist that the children should follow the class rules? Why did they give the children some specific demands and insist that they obey them? What philosophy influenced the teachers' perceptions?

To answer the issues mentioned above, I realized it might be helpful to examine how Taiwanese thinking may have influenced them. In Taiwan, the Chinese traditional culture and Confucian teaching are the most influential educational theories for Chinese people (McMullen et al., 2005). In addition, recently Taiwan has gradually changed in its cultural values because it has taken into account the culture of the original Taiwanese races and included multicultural aspects since there are more and more foreign people who are residents in Taiwan now. Confucian principles emphasize the deference to the group and parental authority and the respect to teachers' teaching, so Taiwanese parents and teachers tend to exert greater control over their children's behavior in order to train their children to achieve academically and to behave according to social norms (Chao,

1994; Lin & Fu, 1990). For instance, foul language is not allowed in public, especially in schools. It helps us to understand why the teacher, Miss Amy, was very angry when she heard the child, Tom, scold her using curse words. Also, it directly explained why in this study the teacher participants emphasized the need for children to follow the class rules and procedures to make accurate performance. Thus, the young children were more likely to be scolded due to their naturally active dispositions which led to more easily breaking the rules. I also suspected that the children had learned to react to others with inappropriate language/behaviors because the adults treated them in the same way.

Taiwan emphasizes preserving Chinese traditional culture, and Confucianism is the most influential educational theory for the Chinese people who now consider themselves Taiwanese (McMullen et al., 2005). The country's social context and changes in cultural values have occurred due to multiculturalism in Taiwan (Lin & Tsai, 1996). Hence, researchers have noted that the kindergarten curriculum in Taiwan reflects both traditional Chinese values and the cultural changes that have taken place in modern times (McMullen et al., 2005). Due to the influence of Confucianism, Taiwanese teachers and parents place a profound stress on academic advancement as a result of which both early childhood education and even early childhood special education focus on young children's academic learning.

Potential cultural conflicts may also explain the teacher-centered approach I observed in the classroom. According to McMullen et al. (2005) all teachers in the systems of early childhood care and education programs in Taiwan, nursery schools (day care centers) and kindergartens, have received specialized early childhood teacher education based on child-centered learning principles largely congruent with DAP. It is

also obvious that, for nearly 30 years, their professional preparation has also infused traditional Chinese societal values (Hsieh, 2004). Therefore, McMullen et al. (2005) found that, in spite of their child-centered education background, teachers did not apply child-centered principles freely due to their strong traditional Chinese societal values and perceptions. Hence, these cultural influences appeared to inhibit their use of professional knowledge such as use of FBA, FCT, AT devices, as well as some alternate, and potentially more effective practices that would increase the children's opportunities to learn.

In contrast to these somewhat restrictive influences of culture on instructional practices, the use of Taiwanese to provide comprehensible input during informal interactions had a beneficial influence on the children's performance. However, the use of native language supports did not extend to formal academic instruction. As described in Chapter 5, the three teacher participants spoke both Mandarin and Taiwanese to the students. They explained that most of students in this class speak Taiwanese at home, so they thought it might facilitate the children's understanding by speaking Taiwanese. In contrast, since the phrases, the phonetic symbols (Zhuyin Fuhao) and the academic illustrations were all written in Mandarin; the teachers' instructions were mainly in Mandarin. They frequently asked the children to repeat what they said to learn the pronunciation of the phonetic symbols or Chinese characters. Yet, by the children merely imitating the words and not understanding the meanings of the words, this presented problems for them later. For example, after leading the children to read phrases or sentences, Miss Amy asked the children to point to the objects that she named, but the children sometimes did not get the right answer.

Besides the use of FBA/FCT and AT device to facilitate children's social communication skills, the use of children's native language would assist children's performance by providing comprehensible input. The literature related to second language acquisition and bilingual instruction supports the role of native language instruction to promote cognitive and academic development, and the importance of comprehensible input for children to be able to learn what is being taught. Some of this research (Donato, 1994, 2000; Engerstrom & Middleton, 1996; Ohta, 1995, 1999, 2000; Swain, 2000; Swain & Lapkin, 1995; Wells, 1999) has shown how learning and language acquisition are realized through a collaborative interactional process in which learners begin to appropriate the language of the interaction for their own purposes (Gibbons, 2003). Hence, the teachers must prepare to meet the linguistic needs of the children with developmental disabilities including SMDD whom they served. For this reason, the teachers should have a general knowledge of the second language acquisition process and bilingual instruction so they can differentiate what is a learning disability from a language difference (Delgado, 2006).

The potential cultural tension that may have been present in this classroom raise important questions about the social validity of Western 'evidence-based practices' that may not automatically work in other cultural settings, especially if the cultural values create conflict for teachers and parents. The Chinese culture is seen to embody the collectivist (i.e., relational) perspective, whereas the Western culture promotes the individualist (i.e., separateness) view (Ho, 1986; Kagitcibasi, 1996; Markus & Kitayama, 1991). Thus, Western teachers and parents are more likely to encourage a child to develop a self that is more autonomous from the family and reflects the child's

uniqueness, whereas Chinese teachers and parents are more likely to encourage children to view themselves as part of the integrated wholes of their family, community, and society, and not to emphasize their differences from others (Markus & Kitayama, 1991). It would explain why the teachers tend to utilize teacher-centered lesson plans and instruction and give few opportunities for the children to make choices.

This is particularly important in view of the fact that the Taiwanese government is adopting U.S. special education laws and teacher education curriculum, translating these laws and curricula into classroom-based practice should take into account the potential culture clash and make appropriately adjust to Taiwanese cultural values. In such situations, the potentially effective practices (e.g., the use of FBA/FCT and AT devices) must be validated and adapted to the different cultural context.

Implications and Recommendations

This study presented the real phenomena of social interactions between young children with developmental disabilities including SMDD and their teachers through the examination of teachers' instruction patterns, purposes of instructions and the outcomes of instructions. The three working hypotheses are related to the instructional practices for the special education teachers in carrying out communication interventions for the young children with developmental disabilities including SMDD. Although these findings are based on a small sample of participating teachers and students, they are similar in many respects to those documented by other researchers, and have several implications for schools and classroom practice, teacher education programs, and research.

Recommendations for improving schools and classroom practices and teacher education preparation and in-service programs are specific to the contexts in which the study was

conducted and to the teacher programs which the participating teachers had completed. This discussion is applicable to other schools and teacher education programs to the extent that these settings and programs are similar.

Implication for Schools and Classroom Practice

The three teacher participants had good intentions to understand the young children's capabilities such as their strengths and weaknesses in order to develop their lesson plans and tried their best to help these young children enhance their maximum potential. Three recommendations should be made in regard to special education service for these young children with developmental disabilities. They are: (a) sharing responsibility and collaborating in designing children's IEP and lesson plans, (b) increasing utilization of assistive technology (AT) in teaching children with SMDD, and (c) going beyond superficial understanding of the children's communication behaviors in dealing with children's challenging behaviors.

Shared responsibility and collaboration in designing children's IEP and lesson plans. In Taiwan the special education laws and regulations required many related people including teachers (general and special education teachers), parents, administrators and specialists, and even the student himself/herself if available, to cooperate in designing a student's IEP. Children with developmental disabilities need many specialists such as psychologists, language and speech therapists, occupational therapists, physical therapists, and even social workers as a team in designing their IEP. These many different specialists can provide more specific suggestions and treatments for the children with developmental disabilities according to their specialized knowledge. Additionally, through IEP meetings the parents and all related teachers and specialists can get the

whole picture of the children's special needs and how different specialists can provide their specific interventions. Through shared responsibilities and knowledge, it will avoid designing inadequate IEPs for the students.

In this study, the responsibility of designing a student's IEP usually fell on the special education teachers only. The specialized team even worked individually with the children, without sufficient information from the parents and other specialists regarding the students' special needs. This additional input could provide the special education teachers greater understanding of the children before they can design suitable IEPs for them.

The promotion of parental involvement in their children's schooling process is expected in both general and special education of which lead to more frequent home-school communication (Individuals with Disabilities Education Act, IDEA, 2006). However, miscommunication, misinterpretation, and conflicts might occur due to differences in cultures and communicative practices, with adverse effects on the collaborative relationships needed to effectively meet the needs of young children with developmental disabilities including SMDD and their families. Essentially, parents are encouraged to seek relevant information from advocacy or parents' support groups, as well as attending parental training. What is more, parents are required to be the decision-makers or even the advocates for their children's education as demanded by Taiwan New Special Education Laws in 1997. In Taiwan, many parental organizations have become active and involved in their children's IEP design. However, influenced by Confucian principles, most parents, especially in rural areas, show respect to teachers' professional authority and offer few opinions in designing their children's IEPs. Therefore, in order to

achieve high quality parental involvement, schools and teachers in this stage may need to make efforts to provide parent education with the hope to include the parents who have children with disabilities in ways that are meaningful to them, and respectful of their beliefs.

In the areas of lesson design and utilization of teaching materials, the teachers tended to use the supplies that were from the general classes because the teachers set up their class goal as for children with disabilities to adapt well into general classes. However, the teachers did not evaluate the suitability of the materials with the need of children with developmental disabilities nor did they involve the general education teachers in designing the children's IEP.

In addition, special education teachers should have basic knowledge about physical, psychological, and occupational therapies, as well as speech therapy to improve their ability to collaborate with specialized teams. Additionally, the teachers could incorporate these therapies into their class activities to provide the children more opportunities to practice them. Special education teachers, specialized team and general teachers should cooperate, share responsibility and collaborate to enhance the efficacy of interventions. What is more, incorporating high quality parental involvement and sufficient communication between teachers and parents will benefit both parents and teachers.

Increasing utilization of assistive technology (AT) in teaching children with SMDD. Research has shown that assistive technologies are effective media for assisting children with developmental disabilities, especially for children with SMDD to communicate and interact with their environmental stimuli (Daniels et al., 1995;

Lancioni, O'Reilly, et al., 2003; Lancioni, O'Reilly, Singh, et al., 2004). If children with SMDD know how to use AT to communicate with others, they may more likely increase their initiation of interaction behaviors and decrease their challenging behaviors (e.g., crying, temper tantrums, aggression, self-injury) (Durand, 1999; Su, 2002). In addition, studies on social communication intervention found that implementing microswitches or other AT devices allow children with developmental disabilities including SMDD to make a choice or request more clearly (Durand, 1999; Lancioni, Singh, O'Reilly, & Oliva, 2004; Schepis et al., 1998). Others may understand the children's intentions and provide appropriate feedback to the children.

Although the utilization of assistive techniques has been found effective in improving some social communication skills for children with developmental disabilities including SMDD, it is not applied broadly by teachers in their teaching settings in Taiwan (Wang, 2004). One of the factors inhibiting teachers to implement assistive technologies during their intervention may be that the teachers lack the knowledge and training in using the AT devices. In addition, one cannot merely teach the children to utilize the devices but also others need to be educated how to interact with the children using AT devices. Hence, how to introduce the AT devices to the teachers and parents and how to develop an easy way for them to teach the children to execute these devices and how to educate most people who are not familiar with the communication devices to interact with the children would be crucial issues when applying the AT devices for the children with SMDD. So it may not be easy to require the special education teachers to carry out the communication intervention through employing AT devices without the specialists' guidance. One important concern while providing the intervention for

children with SMDD is the involvement of the specialized team who can give correct instructions and guide the teachers how to execute this communication intervention. In addition, it is necessary to make lots of efforts to adapt the AT devices into the Taiwanese culture and educate people to accept children using AT devices. When people are apt to interact with children using AT devices, children are more willing to utilize the devices and reach effective communication.

Going beyond a superficial understanding of children's communication behaviors in dealing with their challenging behaviors. In this study the young children displayed different challenging behaviors which forced the teachers to attempt to execute many methods to deal with the children's problems. They tried to interpret the meanings of their inappropriate behaviors, especially their nonverbal behaviors by guessing and relying on explanations by the parents or caregivers. In interpreting the function of a child's behavior, the teachers should try to identify the antecedent events that may trigger the challenging or inappropriate behaviors/language, as well as their own perceptions or beliefs that influenced by Taiwanese cultural context. As discussed in the working hypotheses, if a young child swears when scolding others it will be inferred that he learned this from his family or the adults he is frequently in contact with. In Chinese/Taiwanese society, the children should obey the adults and follow group rules; otherwise they would easily be rebuked by the adults. Hence, it is very likely that Tom, the child with ADHD, may have learned to swear from the adults who reprimanded him. Facing Tom's foul language, the teachers used strategies such as teaching him to speak appropriate words and telling him it was not appropriate to swear at others. Nonetheless, the teachers could further work with the family to modify their responses to Tom's

behaviors. The findings of this study verify what Vygotsky revealed the significant character of social interaction in the cultural developmental context related to children's acquisition and internalization of appropriate social communication skills and language (Mahn, 1999).

Implication for Teacher Education and Training Programs

According to Taiwan New Special Education Laws (1997), special education teachers should have a certificate of special education and new general teachers should have to take three credit hours of special education courses. However, it is not sufficient for preparing a special education teacher. During my observation, the teachers seemed to have a lack of knowledge in teaching young children with severe/multiple developmental disabilities. In addition, learning to get along with others is very important for young children's social development. Young children are active, have lots of energy, and may be aggressive in their play. Therefore, understanding young children's psychological development and helping them find ways to solve their conflicts with peers and to learn appropriate social communication skills would be the most essential issues for the young children with developmental disabilities. Furthermore, since Taiwan is a multicultural island, the children's mother tongue may not be the same as the official language—Mandarin. For example, most of the children in this study spoke Taiwanese at home. For this reason, the teachers should be prepared to choose the language that provides the most comprehensible input during instruction, and to be responsive to the child's and family's socio-cultural backgrounds.

As a result, the following suggestions provide a starting point for the institutions of education to provide teacher education programs including teacher preparation programs and in-service teacher training:

1. Provide practical program of functional communication training (FCT) for teachers. The program should ensure that they have the skills to use FCT in their daily teaching to help the teachers quickly figure out young children's challenging behaviors. Thus the teachers could train the children to learn appropriate social communication skills. Besides, it is necessary to consider the potential interaction with Taiwanese cultural beliefs and practices to ensure that teachers will be willing to implement this in their school settings.
2. Provide multicultural and bilingual education training for teachers, so that the teachers could understand children's languages, especially for the children whose mother tongue is not Mandarin. Taiwan is a multicultural island, which involves various ethnicities, as well as a mixture of beliefs, thoughts and even languages. There are many other languages such as Hakka, native Taiwanese languages, and even mixed-English used in people's daily social conversations. In addition, lots of foreign residents from South-East Asia dwell in this county, making the language used for daily social communication more diversified. Hence, teacher education programs must facilitate teachers to be reflective of their own beliefs and behaviors regarding intercultural and bilingual interaction in order for them to be better prepared to teach in special education classroom settings which involve students from culturally and linguistically diverse (CLD) backgrounds.

3. Provide special education training for both general and special education teachers to enhance their cooperation in inclusive activities. Darling-Hammond (1994) have proposed that enhancing teachers' application of theory is through the development of professional development schools or communities of practice where teacher educators, pre-service, and in-service teachers come together to learn from one another while modeling effective instructional practices and collaborative skills across disciplines.

Recommendations for Further Research

This exploratory study increases our understanding about the nature of teacher-student interaction during communication interventions regarding teachers' instruction patterns and purposes, as well as the outcomes of the instructions. More research is needed to explore related topics, including: (a) the nature and context of interactions among the participants which involve parents and the specialized team, (b) language use and different language groups, (c) different teaching strategies, and (d) a follow-up study when the children transit from kindergarten to elementary schools or different settings. The following recommendations provide a possible direction for future investigate.

1. Because individual teachers' beliefs influence so much of what they do in their daily practice, including their dispositions toward working with other professionals such as a specialized team, I would also be interested in exploring the beliefs that teachers bring into their work and how these influence students' learning.
2. Since the primary focus of this study was the teachers and their interactions with the students, data about students and parents were only examined in

order to provide contextual information. More knowledge of young children with developmental disabilities and their parents' expectations will help our understanding of how teachers perceive young children with developmental disabilities including SMDD and how this influences their instruction decisions.

3. In my observations of the three teacher participants' speech, they frequently used baby talk with the young children. Since it was not my research focus, this study did not examine how the teachers' baby talk influenced the young children's language expression, especially for the verbal children. Baby talk is adult-to-infant vocal expressions of affective intents also known as "motherese" (Shami & Verhelst, 2007). Studies have shown that infants and young children actually prefer to listen to this type of speech (Reschke, 2002). Hence, future research may investigate the use of motherese of parents and teachers in affecting the rate and quality of language acquisition for young children with developmental disabilities.
4. Choice-making is an important factor for teaching individuals' self-determination, which is also one of the current zeitgeists in the field of developmental disabilities (Singh et al., 2003). This study did not spend much effort to investigate the topic of choice-making because it was not the focus; however, the results showed that the teachers provided few choice-making opportunities to the children due to their high control and teacher-centered instruction, which might also be influenced by Taiwanese cultural values and Confucian teaching. For this reason, it will be essential for future research to

investigate the correlation between teachers' perceptions or teachers' interventions or cultural relevance and students' self-determination.

5. Given the small sample size of this study, it is important that more research studies are conducted on the nature of the interaction between teachers and young children with developmental disabilities across languages, settings and geographical regions. For example, the study recommends conducting a study which is engages participants in other language groups such as Hakka groups in Taiwan, to explore the nature of interaction between teachers and young children with developmental disabilities during communication interventions.
6. As the young children transition to the elementary school, I would like to have a follow-up exploration of whether the young children's interaction with their teachers and peers varies from what was observed in this study. Besides, an additional research may explore the differences in teachers' beliefs, knowledge, and skills in serving these young children in varied settings, and the differences in the types of collaboration that take place between special education teachers and general teachers to see how these compare to my findings.
7. Because limited research has been conducted to explore social communication skills for young children with severe/multiple developmental disabilities, more research needs to address teachers' understanding of the meanings of young children's nonverbal behaviors and how their interpretation of the children's body language affects their practice.

Limitation and Utility of the Findings

The data in this study are drawn from real-life situations which include interviewing the teacher participants, observing classroom instructions for more than five months (including informal and formal observations), and students' documents such as their IEPs. After the observation semester, I continued to visit the class many times and even attended IEP meetings. I also contacted the teachers through emails or phone calls to check the actuality of my analysis. Without being constrained by predetermined categories of analysis, but instead by using the naturalistic inquiry method, this investigation facilitated openness, depth and detail in the interviews and classroom observations.

This study contributes to increasing our understanding of the communication instructional practices utilized by three special education teachers when working with young children with developmental disabilities, including SMDD. The perspectives, knowledge, and experiences reflected in participating teachers' practices were documented. These findings broaden our understanding of teachers' instruction patterns, instructional purposes, and their evaluation of students' performance during communication interventions, as well as the nature of teacher-student interactions. Moreover, the results raise some important questions about the cultural context of instruction, particularly in the cross-cultural adoption of instructional practices.

On the other hand, given the nature of qualitative study, the findings of this study were only drawn from a special education class with 3 teacher participants and 4 young children with development disabilities. Therefore, these findings cannot be generalized to other settings because of the diversity in the special education settings in which

observations are conducted. The results are limited in that they were based on the exploration of the practices of only three teachers providing communication interventions to four young children with developmental disabilities in an elementary school's preschool/kindergarten special education class. Moreover, the Taiwanese sociocultural contexts of the settings and participants, and the use of two languages (Mandarin and Taiwanese) by the teacher participants limits the transferability of the findings to similar settings. Nonetheless, efforts have been made to provide detailed descriptions of the contexts, teachers, and students, so that readers may determine the transferability of these findings through the relevant detailed descriptions of the participants and settings within a similar context.

It is possible that some of the observed interactions were influenced by my presence in the classroom. Of the three participants, only Miss Betty felt uncomfortable in the beginning. It may be because Miss Amy and Miss Cathy are senior special education teachers while Miss Betty had less experience and confidence compared to the other two teachers. However, because of the considerably prolonged study period (about five months) and numerous classroom observations, as well as my efforts to make the teachers know that I was there to learn about their communication instructions, I believe that toward the end of my study, Miss Betty became more open to me and to our discussions. In addition, I also had a good relationship with the parents. One of the parents even helped me to videotape her child. The students only felt curious about what I was doing the first time of my videotaping, and later they did not even pay any attention to my observations. Only Tom thought I was taking pictures of him, so sometimes he looked at me and gestured "yeah" to me.

The time frame in which this study was conducted is another limitation in that observations conducted in the spring may not be representative of the whole school year. Besides, I could not conduct member checking with the students who were young children with developmental disabilities including SMDD. Even though I was in the school for just one semester, I used prolonged observation in the classrooms, taking field notes, member-checking with teachers, peer debriefing assured the accuracy of the data, triangulation, and data saturation to ensure trustworthiness. Ultimately I have to be able to show that the patterns I documented here were stable and representative of the participants.

Another limitation is my own identity as a Taiwanese-Chinese with Western educational roots. In appendix A: Researcher as Instrument Statement, I described how both Taiwanese cultural values and Western philosophy have tremendously influenced my beliefs. I hold these views as I worked on this current study, which may help me to be like an outsider looking in so that I can more clearly observe the Taiwanese early childhood special education. On the other hand, my beliefs may serve as a bias that impacts my analysis when I wear a Western lens. In my reflexive journaling process, I found I frequently moved back and forth between these perspectives during the data analysis. Naturalistic inquiry is highly dependent upon its research context (Schwandt, 2001), to investigate the social communication of teacher-student interactions in a non-manipulative and non-controlling manner, I played the role of an outside observer and utilized open-ended teacher interviews. In my data analysis I tried a more constructivistic approach in order to truly represent the teachers' genuine views and natural interactions

between teachers and the young children with developmental disabilities including SMDD.

Conclusion

This investigation was an exploratory study of the nature of interactions between teachers and young children with developmental disabilities including severe/multiple developmental disabilities (SMDD) during communication interventions and how both were mutually influenced by such interactions. It provided a qualitative research that gave the readers a full vision regarding the nature of teacher-student interactions during communication intervention in special education settings. The results provide empirical evidence for previous hypotheses and explanations regarding teachers' selection and implementation of communication interventions.

Some crucial issues arose from the findings regarding how to introduce the assistive technique (AT) devices to the teachers and parents, how to adapt the devices into Taiwanese culture and develop an easy way to teach the children to execute the devices, and how to educate most people who are not familiar with the communication devices to interact with the children when applying the AT devices for the children with SMDD.

Some principles of culturally responsive pedagogy applied to this classroom and raised issues concerning cross-cultural relevance. The teachers' use of the native language was consistent with principles of bilingual education. The results of this study confirmed that examined teacher-student discourse from a sociocultural perspective providing understanding of how cognitive, social cultural, emotional, and communicative factors impact instruction (Forman & McCormick, 1995; Kraker, 2000). Implication to

teacher education should adopt the training programs that suitable to Taiwanese cultural beliefs and practices in order to ensure the teachers will be willing and easily to execute in classroom settings. Future research should explore the nature of the interaction between teachers and children with developmental disabilities including SMDD across language, settings and geographical regions to compare the differences among them.

Appendix A: Researcher as Instrument Statement

This study applied qualitative research method and I, the researcher, am the instrument of primary data collection and analysis. In this statement, I expressed and reflected on my perceptions and previous experience related to the study and to my role as the instrument of data collection and analysis.

In my first year of teaching, I was aware that because of my role as a teacher, what I said and how I acted in the classroom had a deep impact on my students—including bad and good influences. This feeling grew increasingly strong in the later years of my teaching career, especially when I became a special education teacher. The first time I met with a child with severe cerebral palsy, even though I could feel he seemed to try to tell me something, I had difficulties figuring out what he tried to express. One of my friends, who had many years' experience in teaching children with severe multiple disabilities, told me how she interacted with this group of children and how she understood their intention from their non-verbal responses. Hence, I believe that no matter how profound the disabilities of a person, he/she has the same needs to communicate with others and teacher's understanding in interacting with this child should have a significant impact on the child's social communication skills.

I have studied at the University of Texas at Austin (UT-Austin) for the past five years--two years in the Master's program in special education focusing on the area of early childhood special education and three years in the Doctoral program focusing on the area of autism and developmental disabilities. The training assists me to be an expert in the use of behavioral models to implement communication interventions for children

with disabilities, especially implementing assistive technologies to help individuals with severe multiple disabilities for social communication. During my study at UT-Austin, I took many practicum courses and also worked as a student teacher in a special school and many PPCD classes (i.e., preschool programs for children with disabilities classes). I had many opportunities to observe how teachers carry out intervention for children with severe multiple disabilities. I found teachers' talk and actions in implementing intervention techniques/strategies should be the most important factor in facilitating the learning of social communication skills for children with severe multiple development disabilities (SMDD).

In addition to my training in behavioral approach interventions for children with severe multiple disabilities, I also have a strong background in psychology and counselor training. I have worked as a para-professional counselor using cognitive methods for counseling at a non-profit institution for more than five years. Besides, based on my seven years of experience as a special education teacher, I strongly believe that the success of the process of teaching and learning depends on not only the teaching techniques/strategies but also contributions by both teachers and learners. I believe that children learn through participation in social contexts. I believe that social communication must be examined in multiple aspects including teacher-student interactions and their environment.

During the past five years of study at UT-Austin, I had plenty of opportunity to fly back and forth between Taiwan and the U.S., so I also experienced the cultural difference and divergent value systems between Asia and America. When I took some human inquiry and qualitative research courses, I learned that people always use their

own subjective vision to interpret what they see and what they hear. Because of my own experience in learning about the two cultures as well as my professional training, I believe that the profession needs to prepare teachers to have more appropriate understanding of children with severe multiple developmental disabilities, and that the issue needs to be studied and understood in a context as situated social cultural practice.

As a Taiwanese-Chinese, I am aware that some of my beliefs are rooted in traditional Taiwanese cultural context and Confucian teaching. However, for the past eight years, Christian thought and Western philosophy have extremely influenced my beliefs as well. I believe that a class should be well organized according to students' needs. I appreciate Western's education that emphasizes guiding an individual to be independent with their thinking. I highly value respecting the individual in Western society, especially in the U.S. society where I have lived for six years. So, I believe that I have a more student-centered approach and I am against high parental control. Besides, Vygotsky's sociocultural theory impresses me deeply. I believe that an individual learns from his/her personal sociocultural history and experience. Therefore, I believe that, as a teacher, I must provide abundant activities in order for the students to experience more. Further, I believe that only love and caring could make any intervention work. I do not believe that punishment is effective because students will learn from how you treat them. A teacher should encourage students to explore the world. I believe everyone is special and unique. I believe that, with appropriate assistance, everyone can have a good life no matter how severe his or her disabilities. I hold these views as I enter the current research study, which may help me be like an outsider looking in so that I can more clearly

observe the Taiwanese early childhood special education. On the other hand, my beliefs may serve as a bias that impacts my analysis when I wear a Western lens.

I am also aware that my identity as a Taiwanese-Chinese with Western education might cause the teacher participants to feel uncomfortable as to whether I will judge their teaching according to my learning in the U.S. However, my Taiwanese identity also helps me to easily enter the setting and to understand the whole context of interventions. It is hoped that the considerably long periods of interaction with the teachers, the prolonged observation, and the carefully designed research methods are able to assure them that my main interest is to seek the teachers' genuine views and natural interactions between teachers and the young children with developmental disabilities including SMDD, so that their talks and actions in the classroom setting would help professional educators to better identify the perspectives and needs, and realize how teachers interpret the meanings of social communication behaviors of young children with developmental disabilities including SMDD while working with these children.

Appendix B: Teacher Consent Form in English

IRB # _____

Teacher Consent Form

The University of Texas at Austin

You are being asked to give consent to participate in a research study. This form provides you with information about the study. The principal investigator will describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

Title of Research Study:

The Nature of Teacher-Student Interactions during Communication Interventions for Young Children with Severe/Multiple Developmental Disabilities

Principal Investigator(s), UT affiliation, and Telephone Number(s):

Ying-Shu Chen

Department of Special Education
University of Texas at Austin
886-7-533-5692

Funding source:

None

What is the purpose of this study?

The purpose of this study is to explore the nature of instruction for teaching children with severe/multiple developmental disabilities in order to examine the interaction patterns between teachers and students with developmental disabilities. In addition to classroom observations, you will be interviewed to learn more about your students' learning, and the intervention strategies you use to communicate with them. The information gathered will be analyzed to describe how teachers guide students' communication interaction. Information gained from this study will be used to better understand children's communication language/behaviors and effective instructional techniques.

What will be done if you take part in this research study?

The researcher, Ying-Shu Chen, will observe the teacher and target students in the classroom during classroom instruction 4 times a week, for approximately 30 to 45 minutes each, over the Spring 2007 semester. These sessions will also be video-taped and/or audio-taped. Two formal teacher interviews will be conducted and will last approximately 45-60 minutes. With your permission, the interviews will be videotaped or audio-taped.

What are the possible discomforts and risks?

This research poses no significant risks. You may feel uncomfortable being audio- or videotaped, but these discomforts are minimal and may only be present during initial sessions. Every effort will be made to reduce any discomfort you may feel. You also have the option to discontinue the audio- and/or videotaping. One possible risk is loss of confidentiality. To safeguard for confidentiality, all written reports will use pseudonyms. Videotapes and audiotapes will be kept locked in Ying-Shu Chen's office, and they will be coded with pseudo names and numbers, in order to ensure confidentiality.

What are the possible benefits to you or to others?

One possible benefit for you is an increased awareness of and reflection about your own teaching due to an additional participant/observer/interviewer in your classroom. Your increased awareness and reflection on your part may also benefit students if your understanding of their communication is increased. The study results will provide a better understanding of the ways in which you guide students through the use of particular interactional techniques.

If you choose to take part in this study, will it cost you anything?

No

Will you receive compensation for your participation in this study?

No

What if you are injured because of the study?

Injury is very unlikely because this is primarily an observational study.

If you do want to take part in this study, what other options are available to you?

Participation in this study is entirely voluntary. You are free to refuse to be involved in the study, and your refusal will not influence your current or future relationships with the University of Texas at Austin or your school district.

How can you withdraw from this research study and who should you call if you have questions?

If you wish to stop your participation in this research study for any reason, you should contact: Ying-Shu Chen at 886-7-533-5692. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits to which you may be entitled. Throughout the study, the researcher will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your rights as a research participant, please contact Lisa Leiden, Ph. D., Chair, the Institutional Review Board for the Protection of

Human Subjects, the University of Texas at Austin 0191-512-232-4383, E-mail: lisa.leiden@mail.utexas.edu.

How will your privacy and the confidentiality of your research records be protected?

Authorized persons from the University of Texas at Austin and the Institutional Review Board have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. This research project is not sponsored or founded by any outside source. Your research records will not be released without your consent unless required by law or a court order. The tapes will be kept in a locked file cabinet in Ying-Shu Chen's office at The University of Texas at Austin and will be heard or viewed for research purposes by the researcher. At the conclusion of the study, the tapes will be stored in the office for possible future analysis. In any written reports, you will be given a pseudonym to ensure that your confidentiality will be protected.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Your identity will be protected. If used for these purposes, all data will be coded so that no personally identifying information is visible on them. Audio- and videotapes will be used only with your consent.

Will the researchers benefit from your participation in this study?

No.

You may keep the copy of this consent form.

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of person obtaining consent

Date

You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this Form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

Printed Name of Participant

Date

Signature of Participant

Date

Signature of Principal Investigator

Date

NOTE: I may wish to present some of the tapes from this study at scientific conventions or as demonstrations in classrooms. Please sign below if you are willing to allow me to do so with the video or audio-tapes of the classroom observation and interviews.

I hereby give permission for the ___ videotapes or ___ audiotapes made for this research study to be also used for educational purposes.

Signature of Participant

Date

Appendix C: Teacher Consent Form in Chinese

IRB # _____

教師同意書

美國德州大學奧斯汀分校

您需經由書面方式表示同意參與本研究，這份同意書將提供你此研究的相關訊息。本研究的主要研究者會向您敘述這個研究並回答您所有問題。在您決定是否同意參與此研究之前，請先閱讀以下的訊息並詢問您所不清楚的部分。您的參與完全是出於自願，您可以拒絕參與而不會有任何處罰或喪失您的任何權益。

研究主題：

重度或多重發展障礙幼兒及其教師在溝通教學時的自然互動之研究

主要研究者、系所及電話：

陳瑛淑

特殊教育學系

美國德州大學奧斯汀分校
886-7-533-5692

資金來源：

無

研究目的：

本研究目的旨在探討教導重度或多重發展障礙幼兒與其特教教師在教導學生學習社交溝通技能時的互動情形。除了教室觀察外，為了瞭解您學生的學習和您的教學策略，本研究也將進行教師訪談。所得所有資料將用以分析描述教師如何來教導學生的溝通互動，藉以提供對學生的溝通語言與行為有更深入的瞭解，進而能協助教師選擇應用有效的教學技巧與策略。

研究過程：

研究者陳瑛淑將會進行教室觀察教師在上課時指導學生的情形每週4次，每次約30至45分鐘，在九十五學年度下學期進行。觀察過程將進行錄影及/或錄音。此外有兩次的正式教師訪談為時約45至60分鐘，您可選擇錄音或錄影。

可能的不自在或風險：

本研究並無顯著的風險。您可能會覺得不自在被錄影或錄音但這不自在的感覺將減至最小且可能只是在最初的時候。研究者將盡最大的努力去減低任何造成您不自在的感覺，您也可以選擇停止錄影及/或錄音。一個可能的風險是您可能會有隱私被公開的疑慮，為了保障您的隱私權，所有的書寫報告將用假名。錄影帶和錄音帶將鎖在陳瑛淑的辦公室且編成密碼以確保機密。

對您或他人的可能益處：

一個可能對您的益處是，您將增加覺知自己的教學因為有另一位參與者/觀察者/訪談者在您的教室中。您增加對自己教學上的察覺也會因而對學生有所助益因為您更加了解學生的溝通行為及語言。研究結果將提供教師作為在互動溝通教學技巧的使用有更加的認識。

如果您參與此研究需付任何費用嗎？

無

在參與此研究中您會得到任何補償嗎？

無

您是否可能在參與此研究中受傷？

您不太可能會在參與研究中受傷因為此僅為觀察研究。

您是否有其他選擇如果您要參與此研究？

參與本研究是完全自願的。您有自由拒絕參與本研究而不會影響到您與美國德州大學奧斯汀分校或您的學區之間的關係。

如果您想退出本研究您可以跟誰聯絡？

如果您因任何理由要終止參與本研究請聯絡陳瑛淑，電話 886-7-533-5692。您有自由在任何時間收回您的同意書並停止參與本研究而不會有任何的處罰及喪失您應有的權益。在研究過程中如果有新的訊息可能會影響您決定是否繼續參與本研究，研究者會告知您。

此外，若您有任何關於您作為一個研究參與者的權利問題，請聯絡Lisa Leiden博士，他是美國德州大學奧斯汀分校保護人類研究審核機構的主任，電話 0191-512-232-4383，E-mail: lisa.leiden@mail.utexas.edu。

本研究將如何來保護您的隱私及機密在參與此研究中的紀錄？

美國奧斯汀德州大學保護人類研究審核機構會授權給合法的人去審核您的研究紀錄且在法律上保障您的機密。本研究並無其他的外部資源贊助。本研究將不會公佈您的研究紀錄在未取得您的許可時除非有法院指令。錄影帶及錄音帶將鎖在陳瑛淑於美國奧斯汀德州大學的辦公室請僅供研究用途。在研究結束後這些錄影帶及錄音帶將妥為保存作為可能的將來分析。在任何研究的書寫報告中，您會給予一個假名以確保您的機密。

如果研究結果被出版或發表在學術會議時，您的身分將不會被呈現。

您的身分將被保護，所有資料將編成密碼，任何個人的身分不會被顯現出來。錄音帶和錄影帶只有在您的同意之下才會被使用。

研究者會從您的參與研究而得到利益嗎？

無。

您可以保有此份同意書的複本。

作為本研究的代表者，我已經解釋本研究的目的、研究過程、及參與者的益處和風險。

獲得同意書人的印刷體姓名及簽名

日期

您已經被告知本研究的目的、過程、可能的益處及風險，且您也收到本同意書的複本。在您簽同意書之前您可以有機會問問題且您也被告知可以在任何時候詢問其他問題，您是自願參與本研究，您簽這份同意書並不會喪失您法律上的任何權利。

參與者的印刷體姓名

日期

參與者簽名

日期

主要研究者簽名

日期

附註：我可能希望能發表一些本研究的影音帶在學術會議或課堂中，如果您願意允許我使用如此使用教室觀察和訪談的錄影帶或錄音帶請在下欄中簽名。

茲同意本研究中之 ____ 錄影帶或 ____ 錄音帶可被應用於教育的用途。

參與者簽名

日期

Appendix D: Parent Consent Form in English

IRB # _____

Parent Consent Form

The University of Texas at Austin

You are being asked to give consent for your child to participate in a research study. This form provides you with information about the study. The principal investigator will describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding give consent for your child whether or not to take part. Your child's participation is entirely voluntary and you can refuse to give consent for your child to participate without penalty or loss of benefits to which you or your child are otherwise entitled.

Title of Research Study:

The Nature of Teacher-Student Interactions during Communication Interventions for Young Children with Severe/Multiple Developmental Disabilities

Principal Investigator(s), UT affiliation, and Telephone Number(s):

Ying-Shu Chen

Department of Special Education
University of Texas at Austin
886-7-533-5692

Funding source:

None

What is the purpose of this study?

The purpose of this study is to describe how teachers interact/communicate with their students when teaching children with developmental disabilities, and to document the result of these strategies for the students. I will conduct classroom observations in the classrooms. These sessions will also be video-taped and/or audio-taped. The information gathered will be analyzed to describe how teachers guide students' communication interaction. Your child, _____, was selected because of his/her participation in classroom activities, and because communication goals are included on his/her Individual Education Plan (IEP). Information gained from this study will be used to better understand children's communication language/behaviors and effective instructional techniques.

What will be done if you give consent for your child to take part in this research study?

The researcher, Ying-Shu Chen, will observe (and videotape/audiotape) your child's and the teacher's interactions during instruction in the classroom 4 times a week, for approximately 30 to 45 minutes, over the Spring 2007 semester.

What are the possible discomforts and risks?

This research poses no significant risks. Your child may feel uncomfortable being audio- or videotaped, but these discomforts are minimal and may only be present during initial sessions. Every effort will be made to reduce any discomfort your child may feel. You also have the option to discontinue the audio- and/or videotaping. One possible risk is loss of confidentiality. To safeguard for confidentiality, all written reports will use pseudonyms. Videotapes and audiotapes will be kept locked in Ying-Shu Chen's office, and they will be coded with pseudonyms and numbers, in order to ensure confidentiality.

What are the possible benefits to you or to your child?

The focus of this study is primarily on the teacher's instruction and interactions with students in the classroom. As a result of the teacher's participation in the study, his/her awareness of the strategies may increase, resulting in improved communication and instruction for your child.

If you choose to give consent for your child to take part in this study, will it cost you anything?

No

Will you receive compensation for your child's participation in this study?

No

What if your child is injured because of the study?

Injury is very unlikely because this is primarily an observational study.

If you do give consent for your child to take part in this study, what other options are available to you?

Participation in this study is entirely voluntary. You are free to refuse to give consent for your child to be involved in the study, and your refusal will not influence your current or future relationships with the University of Texas at Austin or your school district.

How can you withdraw from this research study and who should you call if you have questions?

If you wish to stop your child's participation in this research study for any reason, you should contact: Ying-Shu Chen at 886-7-533-5692. You are free to withdraw your consent and stop your child's participation in this research study at any time without penalty or loss of benefits to which you or your child may be entitled. Throughout the

study, the researcher will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your child's rights as a research participant, please contact Lisa Leiden, Ph. D., Chair, the Institutional Review Board for the Protection of Human Subjects, the University of Texas at Austin, 0191-512-232-4383, E-mail: lisa.leiden@mail.utexas.edu.

How will your child's privacy and the confidentiality of your child's research records be protected?

Authorized persons from the University of Texas at Austin and the Institutional Review Board have the legal right to review your child's research records and will protect the confidentiality of those records to the extent permitted by law. This research project is not sponsored or founded by any outside source. Your child's research records will not be released without your consent unless required by law or a court order. The tapes will be kept in a locked file cabinet in Ying-Shu Chen's office at The University of Texas at Austin and will be heard or viewed for research purposes by the researcher. At the conclusion of the study, the tapes will be stored in the office for possible future analysis. In any written reports, you and your child will be given a pseudonym to ensure that your child's confidentiality will be protected.

If the results of this research are published or presented at scientific meetings, your identity or your child's identity will not be disclosed.

Your identity and the identity of your child will be protected. All data prepared for publication or presentation will be coded so that no personally identifying information is included. Audiotapes and videotapes will be used for demonstration or presentation only with your permission.

Will the researchers benefit from your child's participation in this study?

No

You may keep the copy of this consent form.

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of person obtaining consent **Date**

You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this Form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree your child to participate in this study. By signing this form, you and your child are not waiving any of your legal rights.

Printed Name of Parent **Date**

Signature of Parent **Date**

Signature of Principal Investigator **Date**

NOTE: I may wish to present some of the tapes from this study at scientific conventions or as demonstrations in classrooms. Please sign below if you are willing to allow me to do so with the video- or audio- tapes of the classroom observation.

I hereby give permission for the ___ videotapes or ___ audiotapes made for this research study to be also used for educational purposes.

Signature of Parent **Date**

Appendix E: Parent Consent Form in Chinese

IRB # _____

家長同意書

美國德州大學奧斯汀分校

您需經由書面方式表示同意讓您的孩子參與這個研究，這份同意書將提供你此研究的相關訊息。本研究的主要研究者會向您敘述這個研究並回答您所有問題。在您決定是否同意讓您的孩子參與此研究之前，請先閱讀以下的訊息並詢問您所不清楚的部分。您的孩子參與完全是出於自願，您可以拒絕同意您孩子的參與不會有任何處罰或喪失您或您的孩子的任何權益。

研究主題：

重度或多重發展障礙幼兒及其教師在溝通教學時的自然互動之研究

主要研究者、系所及電話：

陳瑛淑

特殊教育學系

美國奧斯汀德州大學

886-7-533-5692

資金來源：

無

研究目的：

本研究目的旨在探討在教導發展障礙幼兒的溝通技能時教師與學生間自然的互動溝通。我將進行教室觀察並錄影和/或錄音，所蒐集的訊息將用以描述教師如何來教導學生的溝通互動。您的孩子 _____ 被選擇參與此研究乃因他/她參與教室活動且溝通項目包含在他/她的個別化教育目標中。本研究中所蒐集的訊息將提供對您孩子的溝通語言與行為有更深入的了解，進而能協助教師選擇應用有效的教學技巧與策略。

研究過程：

研究者陳瑛淑將會進行教室觀察您的孩子和老師於上課過程中的互動每週4次，每次約30至45分鐘，在九十五學年度下學期。觀察過程將進行並錄影及/或錄音。

可能的不自在或風險：

本研究並無顯著的風險。您的孩子可能會覺得不自在被錄影或錄音但這不自在的感覺將減至最小且可能只是在最初的時候。研究者將盡最大的努力去減低任何造成您的孩子不自在的感覺，您也可以選擇停止錄影及/或錄音。一個可能的風險是您的孩子可能會有隱私被公開的疑慮，為了保障您孩子的隱私權，所有的書寫報告將用假名。錄影帶和錄音帶將鎖在陳瑛淑的辦公室且編成密碼以確保機密。

對您或您的孩子可能的益處：

本研究主要焦點在教師在課堂上的教學與學生的互動，因此教師參與此研究將增加他/她對自己教學技巧的察覺進而增進對您孩子的溝通與指導。

如果您的孩子參與此研究需付任何費用嗎？

無

您會因答應您的孩子參與此研究而得到任何補償嗎？

無

您的孩子是否可能在參與此研究中受傷？

您的孩子不太可能會在參與研究中受傷因為此僅為觀察研究。

您是否有其他選擇如果您答應您的孩子參與此研究？

參與本研究是完全自願的。您有自由拒絕讓您的孩子參與本研究而不會影響到您及您的孩子與美國奧斯汀德州大學或您孩子的學區之間的關係。

如果您要讓您的孩子退出本研究您可以跟誰聯絡？

如果您因任何理由要終止您的孩子參與本研究請聯絡陳瑛淑，電話 886-7-533-5692。您有自由在任何時間收回您的同意書並停止您的孩子參與本研究而不會有任何的處罰及喪失您或您的孩子應有的權益。在研究過程中如果有新的訊息可能會影響您決定是否讓您的孩子繼續參與本研究，研究者會告知您。

此外，若您有任何關於您的孩子作為一個研究參與者的權利問題，請聯絡Lisa Leiden博士,他是美國奧斯汀德州大學保護人類研究審核機構的主任，電話 0191-512-232-4383。

本研究將如何來保護您的孩子的隱私及機密在參與此研究中的紀錄？

美國奧斯汀德州大學保護人類研究審核機構會授權給合法的人去審核您的研究紀錄且在法律上保障您的機密。本研究並無其他的外部資源贊助。本研究將不會公佈您

的研究紀錄在未取得您的許可時除非有法院指令。錄影帶及錄音帶將鎖在陳瑛淑於美國奧斯汀德州大學的辦公室請僅供研究用途。在研究結束後這些錄影帶及錄音帶將妥為保存作為可能的將來分析。在任何研究的書寫報告中，您和您的孩子會給予一個假名以確保您孩子的機密。

如果研究結果被出版或發表在學術會議時，您和您孩子的身分將不會被呈現。您和您孩子的身分將被保護，所有資料將編成密碼，任何個人的身分不會被顯現出來。錄音帶和錄影帶只有在您的同意之下才會被使用。

研究者會從您孩子的參與研究而得到利益嗎？

無。

您可以保有此份同意書的複本。

作為本研究的代表者，我已經解釋本研究的目的、研究過程、及參與者的益處和風險。

獲得同意書人的印刷體姓名及簽名

日期

您已經被告知本研究的目的、過程、可能的益處及風險，且您也收到本同意書的複本。在您簽同意書之前您可以有機會問問題且您也被告知可以在任何時候詢問其他問題，您是自願同意讓您的孩子參與本研究，您簽這份同意書並不會喪失您和您孩子法律上的任何權利。

家長的印刷體姓名

日期

家長簽名

日期

主要研究者簽名

日期

附註：我可能希望能發表一些本研究的影音帶在學術會議或課堂中，如果您願意允許我使用如此使用教室觀察和訪談的錄影帶或錄音帶請在下欄中簽名。

茲同意本研究中之 ____ 錄影帶或 ____ 錄音帶也可被應用於教育的用途。

家長簽名

日期

References

- Adams, C., Green, J., Gilchrist, A., & Cox, A. (2002). Conversational behaviour of children with Asperger syndrome and conduct disorder. *Journal of Child Psychology and Psychiatry*, 43(5), 679-690.
- Alberta Learning of Special Education Branch. (2002). *Handbook for the identification and review of students with severe disabilities*. Revised. Alberta Learning, Edmonton. Special Programs Branch. Alberta, Canada.
- Anton, M. (1999). The discourse of a learner-centered classroom: Sociocultural perspectives on teacher-learner interaction in the second-language classroom. *Modern Language Journal*, 83(3), 303-318.
- Association for People with Disabilities, Taiwan R.O.C. (2006). *A review of current practice of special education law in Taiwan*. Retrieved June 21, 2006, from <http://www.enable.org.tw>
- Association for Science in Autism Treatment. (2008). Functional communication training. *Association for Science in Autism Treatment*. Retrieved March 23, 2008, from <http://www.asatonline.org/resources/procedures/functional2.htm>
- Bailey, D. B., Hebbeler, K., Spiker, D., Scarborough, A., Mallik, S., & Nelson, L. (2005). Thirty-six-month outcomes for families of children who have disabilities and participated in early intervention. *Pediatrics*, 116(6), 1346-1352.
- Boardman, A. G. (2005). Interactions between teachers and students with learning disabilities in general education classrooms. *ProQuest Information and Learning*, DAI-A 65/08, 2894.

- Calandrella, A. M., & Wilcox, M. J. (2000). Predicting language outcomes for young prelinguistic children with developmental delay. *Journal of Speech, Language & Hearing Research, 43*(5), 1061-71.
- Cazden, C. (2001). *Classroom discourse: The language of teaching and learning* (2nd edition). Portsmouth, NH: Heinemann.
- Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development, 65*, 1111-1119.
- Chen, Y., & Turner, K. (2003, January). *What do they need in inclusive programs? Comparing the perceptions of parents, administrations, and teachers in South Taiwan*. Paper accepted to present at the 2003 the First annual International Conference on Education. Honolulu, Hawaii.
- Cheng, H. & Page, R. C. (1995). A comparison of Chinese (in Taiwan) and American perspectives of love, guilt, and anger. *Journal of Mental Health Counseling, 17*(2), 210-219.
- Chiu, S. (2004). The Effects of CAI in Chinese by Using Cooperative Learning Method for Elementary School Students with Moderate and Severe Mental Retardation. *Taiwan Electronic Theses & Dissertations System*, National library system number: 92NHLT1284003.
- Cooper, J. E., Brandon, P. R., & Lindberg, M. A. (1998). Evaluators' use of peer debriefing: Three impressionist tales. *Qualitative Inquiry, 4*(2), 265-279.
- Corsaro, W. A. (1985). Implications for early childhood education. *Friendship & Peer Culture in The Early Years*. Norwood, NJ: Ablex Publication.

- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Thousand Oaks, CA: Sage.
- Daniels, L. E., Sparling, J. W., Reilly, M., & Hymphry, R. (1995). Use of assistive technology with young children with severe and profound disabilities. *Infant-Toddler Intervention*, 5(1), 91-112.
- Darhower, M. L. (2000). *Synchronous computer-mediated communication in the intermediate foreign language class: A sociocultural case study*. Unpublished doctoral dissertation, University of Pittsburgh, Pennsylvania.
- Delgado, R. (2006). Teachers' instructional practices when working with Latino English language learners with reading-related disabilities. *ProQuest Information and Learning*, DAI-A 68/01.
- Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of Qualitative Research* (2nd ed.). Thousand Oaks, CA: Sage.
- DiGennaro, F. D., Martens, B. K., & Kleinmann, A. E. (2007). A comparison of performance feedback procedures on teachers' treatment implementation integrity and students' inappropriate behavior in special education classrooms. *Journal of Applied Behavior Analysis*, 40(3), 447-461.
- Donato, R. (1994). Collective scaffolding in second language learning. In J. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language learning research* (pp. 33–56). Norwood, NJ: Ablex.
- Donato, R. (2000). Sociocultural contributions to understanding the foreign and second language classroom. In J. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 27–50). Oxford: Oxford University Press.

- Downing, J. E., & Siegel-Causey, E. (1988). Enhancing the nonsymbolic communicative behavior of children with multiple impairments. *Language, Speech, and Hearing Services in Schools, 19*, 338-348.
- Drasgow, E. & Halle, J. W. (1995). Teaching social communication to young children with severe disabilities. *Topics in Early Childhood Special Education, 15*(2), 164-186.
- Drasgow, E. (1997). The influence of motivation and response competition on the generalized use of a newly learned requesting form in three children with severe disabilities. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 57*(11-A), 4696.
- Durand, V. M. (1999). Functional communication training using assistive devices: recruiting natural communities of reinforcement. *Journal of Applied Behavior Analysis, 32*, 247-267.
- Egel, A. L. (1981). Reinforcer variation: Implications for motivating developmentally disabled children. *Journal of Applied Behavior Analysis, 14*, 345-350. FL: Harcourt Brace Jovanovich College Publishers.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. Chicago, IL: The University of Chicago Press.
- Engerstrom, Y., & Middleton, D. (Eds.). (1996). *Cognition and communication at work*. Cambridge: Cambridge University Press.
- Erickson, F. (1992). Ethnographic microanalysis of interaction. In M.D. LeCompte, W. L. Millroy, & J. Preissle (Eds.), *The Handbook of Qualitative Research in Education* (pp. 202-225). New York: Academic Press.

- Erickson, F. (2004). *Talk and Social Theory*. Malden, MA: Polity Press.
- Erlandson, D. A., Harris, E., L., Skipper, B., L., & Allen, S. D. (1993). *Doing Naturalistic Inquiry: A guide to methods*. Newbury Park, CA: Sage.
- Fairclough, N. (1992). *Discourse and Social Change*. Cambridge: Blackwell Publishers.
- Faux, F. (2005). Multimodality: How students with special educational needs create multimedia stories. *Education, Communication & Information; 5(2)*, 167-181.
- Fetterman, D. M. (1998). *Ethnography: Step by step* (2nd ed.). Thousand Oaks, CA: Sage.
- Fisher, R. (2005). Teacher-child interaction in the teaching of reading: a review of research perspective over twenty-five years. *Journal of Research in Reading, 28(1)*, 15-27.
- Florio-Ruane, S. (1987). Sociolinguistics for educational researchers. *American Educational Research Journal, 24(2)*, 185-197.
- Forman, E. A., McCormick, D., & Donato, R. (1997). Learning what counts as a mathematical explanation. *Linguistics and Education, 9(4)*, 313-339.
- Forman, E. A., & McCormick, D. E. (1995). Discourse analysis. *Remedial & Special Education, 16(3)*, 150-158.
- Forman, E. A., Minick, N., & Stone, C. A. (Ed) (1993). *Contexts for learning sociocultural dynamics in children's development*. New York, NY, US: Oxford University Press.
- Fuchs, L. S., Fuchs, D., & Phillips, N. (1994). The relation between teachers' beliefs about the importance of good work habits, teacher planning, and student achievement. *The Elementary School Journal, 94(3)*, 331-345.
- Gee, J. P. (1996). *Social linguistics and literacies* (2nd ed.). London: Routledge Farmer.

- Gee, J. P. (1999). *An introduction to discourse analysis*. New York: Routledge.
- Gibbons, P. (2003). Mediating language learning: Teacher interactions with ESL students in a content-based classroom. *TESOL Quarterly*, 37(2), 247-273.
- Good, T. L., & Brophy, J. (2000). *Looking in classrooms* (8th ed.). New York: Addison-Wesley.
- Goos, M. (2004). Learning mathematics in a classroom community of inquiry. *Journal for Research in Mathematics Education*, 35(4), 258-291.
- Granlund, M., & Olsson, C. (1999). Efficacy of communication intervention for presymbolic communicators. *AAC Augmentative and Alternative Communication*, 15(1), 25-37.
- Grieshaber, S., & Cannella, G. S. (Eds.). (2001). *Embracing identities in early childhood education: Diversity and possibilities*. *Early childhood series*. NY: Teachers College Press.
- Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Gutierrez, K., Rymes, B., & Larson, J. (1995). Script, counterscript, and underlife in the classroom: James Brown versus Brown v. Board of Education. *Harvard Educational Review*, 65 (3), 445-471.
- Halle, J., Brady, N.C., & Drasgow, E. (2004). Enhancing socially adaptive communicative repairs of beginning communicators with disabilities. *American Journal of Speech-Language Pathology/American Speech-Language-Hearing Association*, 13 (1), 43-54.

- Ho, D. Y. F. (1986). Chinese patterns of socialization: Article review. In M. H. Bond (Ed.), *The psychology of the Chinese people* (pp. 1-37). Hong Kong: Oxford University Press.
- Hsieh, M. F. (2004). Teaching practices in Taiwan's education for young children: Complexity and ambiguity of developmentally appropriate practices and/or developmentally inappropriate practices. *Contemporary Issues in Early Childhood*, 5(3), 309–329.
- Hsueh, T. F. (2003). A research on current early childhood special education teachers and related studies. *Taiwan Electronic Theses & Dissertations System*, National library system number: 92NTTTC576021.
- Huntsinger, C. S., Jose, P. E., Liaw, F. -R., & Ching, W. -D. (1997). Cultural differences in early mathematics learning: A comparison of Euro-American, Chinese-American, and Taiwan Chinese families. *International Journal of Behavioral Development*, 21, 371-388.
- Hwang, B., & Hughes, C. (2000). The effects of social interactive training on early social communicative skills of children with autism. *Journal of Autism and Developmental Disorders*, 30(4), 331-343.
- Hyun, E. (1998). *Making sense of developmentally and culturally appropriate practice (DCAP) in early childhood education*. NY: Peter Lang Publishing, Inc.
- Individuals with Disabilities Education Act (2006). Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities; Final Rule. Department of education. Federal Register, 71 (156), Rules and Regulations, 34 CFR Parts 300 and 301, RIN 1820–AB57.

Individuals with Disabilities Education Act (IDEA) of 1997, PL 101-476, 20 U.S.C. §§ 1400 et seq.

John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*; 31(3/4), 191-206.

John-Steiner, V., & Tatter, P. (1983). An interactionist model of language development. In B. Bain (Ed.), *The sociogenesis of language and human conduct* (pp. 79-97). New York: Plenum.

Johnstone, B. (2002). *Discourse Analysis*. Malden, MA: Blackwell.

Jolivet, K., Stichter, J. P., McCormick, K. M. (2002). Making choices--Improving Behavior--Engaging in Learning. *Teaching Exceptional Children*, 34(3), 24-29.

Jose, P. E., Huntsinger, C. S., Huntsinger, P. R., Liaw, F. (2000). Parental values and practices relevant to young children's social development in Taiwan and the United States. *Journal of Cross-Cultural Psychology*, 31(6), 677-702.

Kaczmarek, L. A., Hepting, N. H., & Dzubak M. (1996). Examining the generalization of milieu language objects in situations requiring listener preparatory behaviors. *Topics in Early Childhood Special Education*, 16(2), 139-167.

Kagitcibasi, C. (1996). *Family and human development across cultures: A view from the other side*. Mahway, NJ: Erlbaum.

Kaiser, A. P., & Hester, P. P. (1994). Generalized effects of enhanced milieu teaching. *Journal of Speech & Hearing Research*, 37, 1320-1340.

- Kaiser, A. P., & Lora. (1995). Using augmentative and alternative communication to improve communication for preschool handicapped children. *Nova Southeastern University*. ED393255.
- Kang, Y. A. (2001). A profile of early childhood education in Taiwan (in Chinese). *Bulletin of The Meiho Institute of Technology*, 19, 281-293.
- Kang, Y., Lovett, D., & Haring, K. (2002). Culture and special education in Taiwan. *Teaching Exceptional Children*, 34(5), 12-15.
- Kanu, Y. (2002). In their own voices first nations students identify some cultural mediators of their learning in the formal school system. *Alberta Journal of Educational Research*, 48(2), 98-121.
- Kraker, M. J. (2000). Classroom discourse: Teaching, learning, and learning disabilities. *Teaching and Teacher Education*, 16(3), 295-313.
- Lacono, T. A., & Duncum, J. E. (1995). Comparison of sign alone and in combination with an electronic communication device in early language intervention: case study. *AAC Augmentative and Alternative Communication*, 11, 249-259.
- Lancioni, G. E., & Lems, S. (2001). Using a microswitch for vocalization responses with persons with multiple disabilities. *Disability and Rehabilitation*, 23(16), 745-748.
- Lancioni, G. E., O'Reilly, M. F., Oliva, D., & Coppa, M. M. (2001a). A microswitch for vocalization responses to foster environmental control in children with multiple disabilities. *Journal of Intellectual Disability Research*, 45, 271-275.
- Lancioni, G. E., O'Reilly, M. F., Oliva, D., & Coppa, M. M. (2001b). Using multiple microswitches to promote different responses in children with multiple disabilities. *Research in Developmental Disabilities*, 22, 309-318.

- Lancioni, G. E., O'Reilly, M. F., Oliva, D., Singh, N. N., & Coppa, M. M. (2002). Multiple microswitches for multiple responses with children with profound disabilities. *Cognitive Behaviour Therapy, 31*(2), 81-87.
- Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Oliva, D., & Groeneweg, J. (2003). Using microswitches with persons who have profound multiple disabilities: Evaluation of three cases. *Perceptual and Motor Skills, 97*, 909-916.
- Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Oliva, D., Piazzolla, G., Pirani, P., & Groeneweg, J. (2002). Evaluating the use of multiple microswitches and responses for children with multiple disabilities. *Journal of Intellectual Disability Research, 46*, 346-351.
- Lancioni, G. E., O'Reilly, M. F., Singh, N. N., Stasolla, F., Manfredi, F., & Oliva, D. (2004). Adapting a grid into a microswitch to suit simple hand movements of a child with profound multiple disabilities. *Perceptual and Motor Skills, 99*, 724-728.
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., & Oliva, D. (2002b). Multiple microswitches for children with multiple disabilities: Assessing response maintenance. *Journal of Positive Behavior Interventions, 4*, 104-108.
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., & Oliva, D. (2003). Evaluating optic microswitches with students with profound multiple disabilities. *Journal of Visual Impairment & Blindness, 2003*, 492-495.
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., Oliva, D., Scalini, L., Vigo, C. M., et al. (2004). Microswitch clusters to support responding and appropriate posture of students with multiple disabilities: Three case evaluations. *Disability and Rehabilitation, 26*(9), 501-505.

- Lancioni, G. E., Singh, N. N., Oliva, D., Scalini, L., & Groeneweg, J. (2003).
Microswitch clusters to enhance non-spastic response schemes with students with
multiple disabilities. *Disability and Rehabilitation*, 25(6), 301-304.
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., & Oliva, D. (2002a). Using a hand-tap
response with a vibration microswitch with students with multiple disabilities.
Behavioural and Cognitive Psychotherapy, 30, 237-241.
- Lancioni, G. E., Singh, N. N., O'Reilly, M. F., & Oliva, D. (2004). A microswitch
program including words and choice opportunities for students with multiple
disabilities. *Perceptual and Motor Skills*, 98, 214-222.
- Lee, K. (2001). Study on the effect of environmental arrangement to promote
communication in severely handicapped children (in Chinese). *Taiwan Electronic
Theses & Dissertations System*, National library system number: 89NTNU0284010.
- Liao, W. (1996). Using communication devices to improve the communication skills of
students with cerebral palsy (in Chinese). *Taiwan Electronic Theses & Dissertations
System*, National library system number: 85NCUE0284005.
- Lin, C., & Fu, V. R. (1990). A comparison of child-rearing practices among Chinese,
immigrant Chinese, and Caucasian-American parents. *Child Development*, 61, 429-
433.
- Lin, H. (2000). 特殊教育法修法後的變革與面臨的問題初探 [Exploring the transform
and problems after the mended Special Education Law]. *Parents Association for
Persons with Intellectual Disabilities, Taiwan R.O.C.* Retrieved June 21, 2006, from
<http://www.papmh.org.tw/news/89/8905edu.htm>

- Lin, H., & Gorrell, J. (2001). Exploratory analysis of pre-service teacher efficacy in Taiwan. *Teaching and Teacher Education, 17*, 623-635.
- Lin, Y. W., & Tsai, M. L. (1996). Culture and kindergarten curriculum in Taiwan. *Early Child Development and Care, 123*, 157-165.
- Lincoln, Y. S., Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hill, CA: Sage.
- Littleton, K., Mercer, N., Dawes, L., Wegerif, R., Rowe, D., & Sams, C. (2005). Talking and thinking together at key stage 1. *Early Years An International Journal of Research and Development, 25*(2), 167-182.
- Liu, Y. (2003). An investigation on background and professional knowledge of early intervention teachers in social welfare organization. *Taiwan Electronic Theses & Dissertations System*, National library system number: 91NTCTC576036.
- Lo, T. (2003). The study of social interaction for children with language disability -two case studies (in Chinese). *Taiwan Electronic Theses & Dissertations System*, National library system number: 89NHCTC096014.
- Maddox, J. I. (1997). Mother and special education preschool teacher perceptions of the communicative competence of children with severe, multiple disabilities (Doctoral dissertation, University of Oklahoma, 1997). *Dissertation Abstracts International, 58*(2):422.
- Mahn, H. (1999). Vygotsky's methodological contribution to sociocultural theory. *Remedial and Special Education, 20*(6), 341-350.
- Mallory, B., & New, R. (Eds.). (1994). *Diversity and developmentally appropriate practices. Challenges for early childhood education*. NY: Teachers College Press.

- Maloch, B. (2002). Scaffolding student talk: One teacher's role in literature discussion groups. *Reading Research Quarterly*, 37(1), 94-112.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- McCathren, R. B. (2000). Teacher-implemented prelinguistic communication intervention. *Focus on Autism and Other Developmental Disabilities*, 15(1), 21-29.
- McCathren, R. B., Yoder, P. J., & Warren, S. F. (1999). The relationship between prelinguistic vocalization and later expressive vocabulary in young children with developmental delay. *Journal of Speech, Language & Hearing Research*, 42(4), 915-924.
- McCormick, L., Loeb, D. F., & Schiefelbusch, R. L. (1997). *Supporting Children with Communication Difficulties in Inclusive Settings*. MA: A Viacom Company.
- McKinney, S. E., Campbell-Whately, G. D., & Kea, C. D. (2005). Managing student behavior in urban classrooms. *Clearing House*, 79(1), 16-20.
- McMullen, M., Elicker, J., Wang, J., Erdiller, Z., Lee, S., Lin, C., et al. (2005). Comparing beliefs about appropriate practice among early childhood care and education professionals from the U.S., China, Taiwan, Korea and Turkey. *Early Childhood Research Quarterly*, 20, 451-464.
- Mercer, N. (1995). *Guiding the construction of knowledge: Talk amongst teachers and learners*. Clevedon, UK: Multilingual Matters, Ltd.
- Mercer, N. (2000). *Words and minds: How we use language to think together*. London: Routledge.

- Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Mertens, D. M. (2005). *Research and evaluation in education and psychology (2nd edition)*. London: Thousand Oaks.
- Ministry of Education of the Republic of China (1997b). *Taiwan Special Education Law*. Retrieved July 5, 2006, from <http://disable.yam.com/law/txt/edu1.htm>
- Ministry of Education of the Republic of China. (1997a). *Special education law of the Republic of China* (in Chinese). Taipei, Taiwan: Ministry of Education of the Republic of China.
- Ministry of Education of the Republic of China. (1999). *The Annual statistic data of Taiwan special education*. Retrieved June 21, 2006, from <http://163.21.111.5/tlearn/book/BookAll.asp>
- Ministry of Education of the Republic of China. (2002). *Special Education Law Executing Regulation* (in Chinese). Taipei, Taiwan: Ministry of Education of the Republic of China.
- Ministry of Education of the Republic of China. (2005a). *The statistic data of Taiwan education*. Retrieved February 21, 2006, from <http://www.set.edu.tw/frame.asp>
- Ministry of Education of the Republic of China. (2005b). *The Annual statistic data of Taiwan special education*. Retrieved June 21, 2006, from <http://163.21.111.5/tlearn/book/BookAll.asp>
- Ministry of Education of the Republic of China. (2007a). (in Chinese). 臺灣閩南語推薦用字(第1批) [Taiwan Taiwanese recommend words (the first batch)]. *Ministry of*

Education. Retrieved May 31, 2007, from

http://www.edu.tw/files/bulletin/M0001/300iongji_960523.pdf

Ministry of Education of the Republic of China. (2007b). (in Chinese). 臺灣閩南語漢字

之選用原則 [The selection principle of Taiwan Taiwanese words]. *Ministry of*

Education. Retrieved May 31, 2007, from

http://www.edu.tw/files/bulletin/M0001/guantsik_960523.pdf

Moll, L.C. (1990). Introduction. In L.C. Moll(Ed.), *Vygotsky and education. Instructional*

implications and applications of sociohistorical psychology (pp. 1-27). New York:

Cambridge University Press.

Mondada, L., & Doehler, S. P. (2004). Second language acquisition as situated practice:

Task accomplishment in the French second language classroom. *Modern Language*

Journal, 88(4), 501-518.

Monzo, L. D., & Rueda, R. S. (2001). *Sociocultural factors in social relationships:*

Examining Latino teachers' and paraeducators' Interactions with Latino students.

Center for Research on Education, Diversity and Excellence, Santa Cruz, CA.

(BBB34416).

National Dissemination Center for Children with Disabilities. (2004). Severe and/or

multiple disabilities. *National Dissemination Center for Children with Disabilities,*

Fact Sheet 10, Retrieved June 21, 2006, from

<http://www.nichcy.org/pubs/factshe/fs10txt.htm>

Newman, D., Griffin, P., & Cole, M. (1989). The construction zone: Working for

cognitive change in school. New York, NY, US: Cambridge University Press.

- O'Brien, L. M. (2000). Engaged pedagogy: One alternative to 'indoctrination' into DAP. *Childhood Education, 76*(5), 283–288.
- Office of Higher Education of Ministry of Education of the Republic of China (2004). 數字看教育 [Looking education by number]. *Electric journal of Ministry of Education of the Republic of China, 69*. Retrieved June 21, 2006, from <http://epaper.ed.tw/069/number.htm>
- Ogletree, B. T. (1995). Movement as a strategy to encourage prelanguage communication. *Focus on Autistic Behavior, 9*(6), 12-14.
- Ohta, A. (1995). Applying sociocultural theory to an analysis of learner discourse: Learner-learner collaborative interaction in the zone of proximal development. *Issues in Applied Linguistics, 6*, 93–121.
- Ohta, A. (1999). Interactional routines and the socialisation of interactional style in adult learners of Japanese. *Journal of Pragmatics, 31*, 1493–1512.
- Ohta, A. (2000). Rethinking interaction in SLA: Developmentally appropriate assistance in the zone of proximal development and the acquisition of L2 grammar. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp.51–78). Oxford: Oxford University Press.
- Orelove, F. P., & Sobsey, D. (1996). Communication skills. In F. P. Orelove & D. Sobsey (Eds.), *Educating Children with Multiple Disabilities* (3rd ed., pp. 253-299). Baltimore, ML: Paul H. Brookes Publishing Co.
- Ozbilgin, A. (2005). Turkish and English literacy in an English medium university in Turkey: A qualitative study. *ProQuest Information and Learning, DAI-A 65*/12, 4548.

- Pan, H. L. (1992). Early childhood education in Taiwan. In S. Feeney (Ed.), *Early childhood education in Asia and the Pacific: A source book* (pp. 471–479). New York: Garland Publishing.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Reschke, K. L. (2002). Baby talk. *Ohio State University Extension*. Retrieved December 29, 2007, from <http://ohioline.osu.edu/flm02/pdf/FS08.pdf>
- Rietz, T. A. (2002). Students' perceptions of motivation: The importance of the student-teacher relationship. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 62(9-A), 2972.
- Rincover, A., Newsom, C. D., Lovaas, O. I., & Koegel, R. L. (1977). Some motivational properties of sensory stimulation in psychotic children. *Journal of Experimental Child Psychology*, 24, 312-323.
- Rosenthal, D. A., & Feldman, S. S. (1991). The influence of perceived family and personal factors on self-reported school performance of Chinese and Western high school students. *Journal of Research on Adolescence*, 1, 135-154.
- Sablo-Sutton, S. A. (2004). Writing our selves: An investigation of literacy, identity and poetry in an urban high school. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 65(2-A), 440.
- Schepis, M. M., & Reid, D. H. (1995). Effects of a voice output communication aid on interactions between support personnel and an individual with multiple disabilities. *Journal of Applied Behavior Analysis*, 28, 73–77.

- Schepis, M. M., Reid, D. H., Behrmann, M. M. & Sutton, K. A. (1998). Increasing communicative interactions of young children with autism using a voice output communication aid and naturalistic teaching. *Journal of Applied Behavior Analysis*, *31*, 561–578.
- Scherer, N. J., & Olswang, L. B. (1989). Using structured discourses as a language intervention technique with autistic children. *Journal of Speech and Hearing Disorders*, *54*(3), 383-394.
- Schiffrin, D. (1994). *Approaches to Discourse*. Malden, MA: Blackwell.
- Schuum, J., Vaughan, S., Gordon, J., & Rothlein, L. (1994). General education teachers' beliefs, skill, and practices in planning for mainstreamed students with learning disabilities. *Teacher Education and Special Education*, *17*(1), 23-37.
- Schwandt, T. A. (2001). *Dictionary of qualitative inquiry*. Thousand Oaks, CA: Sage.
- Selinske, J. E., Greer, R. D., & Lodhi, S. (1991). A Functional Analysis of the Comprehensive Application of Behavior Analysis to Schooling. *Journal of Applied Behavior Analysis*, *24*(1), 107-117.
- Shami, M. & Verhelst, W. (2007). An evaluation of the robustness of existing supervised machine learning approaches to the classification of emotions in speech. *Speech Communication*, *49*(3), 201-212.
- Sigafoos, J. (2000). Communication development and aberrant behavior in children with developmental disabilities. *Education and training in Mental Retardation and Developmental Disabilities*, *35*(2), 168-176.
- Sigafoos, J., Woodyatt, G., Keen, D., Tait, K., Tucker, M., Roberts-Pennell, D., & Pittendreigh, N. (2000). Identifying potential communicative acts in children with

- developmental and physical disabilities. *Communication Disorders Quarterly*, 21(2), 77-86.
- Singer, E. (2001). The logic of young children's (nonverbal) behavior. *The European Conference on quality in Early Childhood Education* (11th Alkmaar, Netherlands), ED457964.
- Singh, N. N., Lancioni, G. E., O'Reilly, M. F., Molina, E. J., Adkins, A. D., & Oliva, D. (2003). Self-determination during mealtimes through microswitch choice-making by an individual with complex multiple disabilities and profound mental retardation. *Journal of Positive Behavior Interventions*, 5(4), 209–215.
- Stevenson, H.W., Chen, C., & Lee, S. -Y. (1993). Mathematics achievement of Chinese, Japanese, and American children: Ten years later. *Science*, 259, 53-58.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks: Sage.
- Study Abroad Electronic Center. (2003). *Taiwan's Educational System*. Retrieved February 13, 2006, from <http://www.saec.edu.tw/fulbright/sys-pre.htm>
- Su, C. (2002). The effects of augmentative alternative communication training on communication behaviors of children with severe mental retardation. *Taiwan Electronic Theses & Dissertations System*, National library system number: 90NCYU1576011.
- Sullivan, M. W., Laverick, D. H., & Lewis, M. (1995). Brief report: Fostering environmental control in a young child with Rett syndrome: A case study. *Journal of Autism and Developmental Disorders*, 25(2), 215-221.

- Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 97–114). Oxford: Oxford University Press.
- Swain, M., & Lapkin, S. (1995). Problems in output and the cognitive processes they generate: A step towards second language learning. *Applied Linguistics*, 16, 371–391.
- Tait, M. E., Nikolopoulos T. P., Lutman M. E., Wilson, D., & Wells P. (2001). Video analysis of pre-verbal communication behaviours: Use and reliability. *Deafness & Education International*, 3(1), 38-43.
- Tannen, D. (1989) *Talking Voices: Repetition, Dialogue, and Imagery in Conversational Discourse*. Cambridge: Cambridge University Press.
- Tharp, R. G. (1997). *From at-risk to excellence: Research, theory, and principles for practice* (Research Report 1). Santa Cruz, CA: Center for Research on Education, Diversity, and Excellence.
- The Red Cross Society of China, R.O.C. (1990). (in Chinese). Taipei, Taiwan: Ministry of Interior.
- Trumbull, E., Rothstein-Fisch, C., Greenfield, P. M., & Quiroz, B. (2001). Chapter 1: The Bridging Cultures framework. In, *Bridging Cultures Between Home And School: A Guide For Teachers* (pp. 1-28). Mahwah, NJ: Erlbaum.
- U.S. Department of Education. (2005). *Helping your preschool child*. U.S. Washington, DC: Department of Education Office of Communications and Outreach.

- Valenzuela, J.S. DE, Connery, M., & Musanti, S. (2000). The theoretical foundations of professional development in special education. *Remedial and Special Education, 21*(2), 111-120.
- Van der Aalsvoort, G. M., Van Tol, A. M., & Karemaker, A. M. (2004). Social play of young children at-risk of learning difficulties: A situated performance?. *International Journal of Disability Development and Education, 51*(2), 151-169.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1987). *The collected works of L.S. Vygotsky: Vol. 1. Problems of general psychology*. New York: Plenum.
- Wang, T. M. (1993). Families in Asian cultures: Taiwan as a case example. In J. L. Paul, & R. J. Simeonsson (Eds.), *Children with special needs* (pp. 165-178). Orlando, FL: Harcourt Brace Jovanovich College Publishers.
- Wang, Y. (2004). The survey study of the teachers of students with mental retardation in applying assistive technology ability and the literacy of pedagogic application assistive technology. *Taiwan Electronic Theses & Dissertations System*, National library system number: 92NHLT1284006.
- Warren, S. F. (1992). Facilitating basic vocabulary acquisition with milieu teaching procedures. *Journal of Early Intervention, 16*(3), 325-251.
- Warren, S. F., & Gazdag, G. (1990). Facilitating early language development with milieu intervention procedures. *Journal of Early Intervention, 14*(1), 62-86.
- Warren, S. F., & Yoder, P. J. (1993). Facilitating prelinguistic communication skills in young children with development delay. *Journal of Speech & Hearing Research, 36*(1), 83-97.

- Waterman, M. W. (2005). The joint achievement of group expertise and autonomy. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 65(11-A), 4107.
- Wells, G. (1999). *Dialogic inquiry: Toward a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.
- Wertsch, J. V. (1990). The voice of rationality in a sociocultural approach to mind. In L.C. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 111-126). New York: Cambridge University Press.
- Wertsch, J. V. (1991). A sociocultural approach to social shared cognition. In L. B. Resnick & J. M. Levine & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 85-100). Washington, DC: American Psychological Association.
- Wertsch, J. V., & Sohmer, R. (1995). Vygotsky on learning and development. *Human Development*, 38, 332-337.
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology & Psychiatry & Allied Disciplines*, 17(2), 89-100.
- Wood, L. & Kroger, R. (2000). *Doing Discourse Analysis: Methods for Studying Action in Talk and Text*. London: Sage.
- Wu, Y. (2003). A case study for a student with profoundly multiple disabilities to use the assistive technology. *Taiwan Electronic Theses & Dissertations System*, National library system number: 91NCUE0284006.

Yoder, P. J., & Warren, S. F. (1994). Facilitating prelinguistic communication skills in young children with development delay II: Systematic replication and extension. *Journal of Speech & Hearing Research, 36*(1), 841-851.

Yont, K. M., Hewitt, L. E., & Miccio, A. W. (2002). 'What did you say?': understanding conversational breakdowns in children with speech and language impairments. *Clinical Linguistics & Phonetics, 16*(4), 265-285.

Vita

Ying-Shu Chen was born on November 27th, 1963 in Kaohsiung City, Taiwan, the daughter of Ching-Ray Chen and Shiue Huang. She has three Bachelor Degrees, a Business Degree in Statistics from Feng Chia University, Taijung, Taiwan, in 1986, an Education Degree in Science and Mathematics Education from National Tainan Teachers College, Tainan, Taiwan, in 1995, and an Education Degree in Special Education from National Tainan Teachers College, Tainan, Taiwan, in 1999. She got her general education teacher certificate in 1990 and got her special education certificate in 1999. She was a general education teacher from 1989 to 1993 at Hsin-chia Elementary School, Kaohsiung County, and was a special education teacher in the same Elementary School in 1993 to 2000. In 2001, she attended the University of Texas at Austin and was awarded a Master of Education Degree in Special Education in 2002. Starting 2000, she has been involved in educational research through working on research projects and lecturing. She has presented her some research topics in local, state, national and international conferences. She is a counselor in Department of Education, Kaohsiung County Government in Taiwan. Her research interests focuses on special education in autism and severe/multiple disability, single-subject research, qualitative research, quantitative research, and mixed methods.

Permanent address: 32, Ln 178, Gushan 2nd Rd, Kaohsiung, Taiwan, R.O.C.

This dissertation was typed by the author