EDUCATING YOUNG CHILDREN WITH AUTISM IN
INCLUSIVE CLASSROOMS IN THAILAND

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This study investigated what constitutes a teaching curriculum for students with autism in inclusive classrooms in Thailand. The researcher employed 3 qualitative methods: semi-structured interviews, document analysis of curricula and lesson plans, and nonparticipant observations. Six schools were selected as the sites. Participants for interview included 6 principals and 24 teachers. The researcher observed 1 inclusive classroom for each of the 6 selected schools.

The study concentrated on 3 questions: (a) What contributes to appropriate instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand? (b) What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand? (c) What are the problems of curricula for teaching students with autism in inclusive classroom in Thailand?

Key findings for the research questions were as follows: Common features of effective curricula for teaching students with autism in inclusive classrooms include opportunities, health care, specialized curriculum, students’ individual needs and abilities, guidelines of teaching, teacher training and supervision, transition plan, parent involvement, tools/classroom environment, and students’ class assignments. The teaching strategies include varying the teaching format (large group, small group, and one-on-one), teaching functional communication (giving direction, close-ended questions or open-ended questions), reinforce communication, using demonstration, modeling, and shaping to teach skills, expecting to gather the child’s attention, demonstrating nonverbal communication (use gestures with speech), using appropriate language for the child (short sentence structure), providing visual materials (books, computers, or real objects), starting with small intervals of time and reinforcing, using other children as peer models for helping, working to maintain eye contact, asking the child to say the word, pointing to objects with hands and with gestures, including regular exercise (active movement activity), providing time to be alone, and using math activity (to include counting one-to-one, odd and even, and patterns).
Moreover, the results revealed that all of interviewees always used applied behavior analysis (ABA), such as discrete trial instruction (DTI), task analysis, and peer tutoring in their classrooms. However, these classrooms never used floor time approach. The problems in teaching students with autism in inclusive classrooms in Thailand include lack of special teachers, lack of knowledge or training for teachers, lack of a good plan and curriculum, lack of supportive services or effective collaboration, lack of budget, and lack of essential information and materials.
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CHAPTER I
INTRODUCTION

In the past, Thai education for children with disabilities was contributed by nongovernmental organizations (UNESCO BANGKOK, 2004). Thai people have traditionally provided special education programs in institutions for students with mental retardation, visual, physical and hearing impairments (Utairatanakit, 2001). There was some limited integration into private sector and government schools (Constitution of the Kingdom of Thailand, 1997). In addition, school-based programs for students with autism were limited to treatments in hospitals (Chrontawonpanit, 2002). In 1999, the Royal Thai Government proclaimed the “Year of Education for Persons with Disabilities, and passed the National Education Act, which mandates the policy that all persons with disabilities must have the same educational opportunities as persons” (APCD, 2003, p. 4). The goals of “education for special needs” were to provide free, appropriate public education for all students with disabilities in Thailand, and to enable students with disabilities to be able to benefit from educational opportunities (Ministry of Education, 2002). Thus, people in Thailand provided special education for gifted children, children with learning disabilities, and children with autism (Srisuruk, n.d.). The idea that special education services for students with severe disabilities, like students with autism, would take place in regular education classrooms is relatively new. The successful inclusion of students with autism in regular preschool classrooms or child care facilities requires a high level of commitment, support, and preparation by everyone involved (Ministry of Education, 2002).

The Individuals with Disabilities Education Improvement Act (IDEIA) is the main U.S. federal program that requires states and local education agencies to support educational opportunities and provide guidelines for appropriate education for children between the age of 3
and 21 (Jones, Apling, & Smole, 2006). Autism is one of the disabilities included in IDEIA (Winerman, 2006). Autism is a developmental brain disorder that affects major areas of functioning, including social interaction, communication, thought processes, and behavior (Winerman, 2006). Autism is a serious problem that may requires many supports for an affected child to continue to develop. Currently, doctors, therapists, and special education teachers try to help children with autism overcome, or at least adjust to, many difficulties (Robledo & Ham-Kucharski, 2005). In addition, there are many organizations today that offer help to autistic children. However, there is not adequate help for ever-increasing number of children with autism.

Based on information provided by the Thai Department of Mental Health (2005), out of approximately thirty thousand Thai children from 1 to 5 years of age who were prone to autism, 1814 children were definitely diagnosed with autism. The condition usually occurs in about 1 child per 1,000 live births and occurs three times more often in boys than girls (Srisuruk, n.d.). In 2006, there were approximately 200,000 children with autism in Thailand, but there were only about 1,000 children who received treatment (Ministry of Education, 2006).

Parents and teachers of children with autism are worried and indicate they are insecure because children with autism may need treatment throughout their lives (Trevarthen, Aitken, Papoudi, & Robarts, 1998). In Thailand, treatment is limited in its scope and availability (Robledo & Ham-Kucharski, 2005). Moreover, children with autism have individual learning styles and limited communication skills that require various accommodations (Fennick & Royle, 2003). It is obvious that children with autism require support over a long period to develop and prepare to function in a normal lifestyle.
Despite the fact that teaching children with autism is difficult, autism does not affect only the ability to learn and understand (Simpson & Zionts, 2000). Developmental psychologists and educators became interested in the development of programs or interventions for teaching children with autism (Edelson, 2006). Students with autism need specialized structures to learn because of their unique learning needs and different developmental abilities (Willis, 2006). In addition, children with autism require safe and interesting environments and opportunities, the same as other students need (Utairatanakit, 2001). Thai physician Surapong Ambhanwong (1999) said that children with autism may become better if they get treatment early, extremely, and continuously. “Increasing numbers of individuals with autism are being placed in general education setting” (Simpson & Zionts, 2000). According to the U.S. Centers for Disease Control and Prevention (2005), in 2003 approximately 141,000 children with autism were receiving special education services. Thus, as the number of children with autism increases, providing appropriate education for students with autism is a national concern (White, 2006).

Although the U.S. law (IDEIA) requires placing students with disabilities in appropriate educational settings and providing opportunities to study equal to that of other students, it is not always possible to provide both requirements for students with autism (Wright, 2004). Thus, many researchers have learned more about inclusion for children with autism because of the basic principle underlying inclusion, that is, children with disabilities can benefit both socially and educationally from associating with normally developing peers (Rogers, 1996). Inclusive classrooms provide the best placement for students with autism to develop their learning skills (UNESCO, 2005). It is important to keep in mind “how to best provide effective services to such children in inclusive early childhood settings” (Schwartz, Billingsley, & McBride, 1996, p. 1).
The History of Autism and Treatments in Thailand

According to the 1997 Constitution of the Kingdom of Thailand, Section 43, “All Thai citizens have equal rights to receive a basic education” (p. 120). The Thai National Education Act of 1999 ensures that this right is extended to all people with disabilities. Thai citizens have an equal right to obtain at least twelve years of basic education as required by law. Pupils with disabilities can choose to study in public school and the education should be at no cost. This is the law that guides how schools deliver special education and related services to students with disabilities.

In order to conform to the Constitution of the Kingdom of Thailand, Ministry of Education established an education for people with disabilities policy on July 6, 1999 (Ministry of Education, 2004). According to the amendments of the National Education Act (1999), the Ministry of Education promotes and oversees all levels and types of education. The purpose of the education for special needs policy is to provide equal educational opportunities to all people with disabilities in Thailand. These pupils must receive the foundations of formal education at no cost for at least 12 years, covering six years of primary and six years of secondary education, just like other students without disabilities. Education for students with disabilities is under the responsibility of educators, psychologists and researchers (UNESCO BANGKOK, 2004). Also, students with disabilities cannot be denied educational opportunities on grounds of disabilities. For students with disabilities who cannot receive education at normal schools, Ministry of Education (2002) established Special Education Centres throughout Thailand. Special Education Centres are collaborations between local governments and private organizations. They were established in each province to facilitate and to assist families with disabled children by providing early intervention and assisting with access to school. The goal of the Special
Education Centres is to give equal educational opportunities to all students with disabilities. These guidelines provide the general framework for Education for All in Thailand.

In 2002 The Ministry of Education identified nine categories of disabilities under which children may be eligible for special education and related services. The nine categories used in the school system were:

1. Blind and visual impairments
2. Deaf and hearing impairments
3. Intellectual disabilities
4. Physical and health disabilities
5. Speech and language impairment
6. Multiple disabilities
7. Autism
8. Learning disabilities
9. Mental or behavioral impairment

Autism is one of the disability categories identified by the Ministry of Education. The Ministry’s principal aim is to provide special instruction and supports for students with autism, based on their individual needs (Ministry of Education, 2002). Education plans strive to help children reach a high functional level in order to maximize the potential for each child with autism (Runjaloen & Choykria, 2006). The educational management system emphasizes teaching the skills students will use in their daily lives. It also prepares them to live a normal independent lifestyle (Sirirutaykha, 2006). While many psychologists, educators, psychiatrists, and other interested people advocate different ways to teach students with autism, providing special
education services for students with disabilities in general education settings is best for students (Ministry of Education, 2002).

The government of the Kingdom of Thailand ensures the rights of each person who has a disability to receive an education and to engage in early stages of developing an “integrated education system, moving toward inclusion” (UNESCO BANGKOK, 2004, p. 1). The term “inclusion” is used to describe success for students with disabilities attending school in general education settings (Mastropieri & Scruggs, 2000). Inclusion requires that students with special needs receive remedial services in the least restrictive environment, especially in regular classrooms (Friend & Bursuck, 2000). Inclusion is accepted in the field of education and is guaranteed by UNESCO (2005). The National Center on Educational Restructuring and Inclusion (1995, p. 1) developed the following working definition of inclusive education:

Providing to all students, including those with significant disabilities, equitable opportunities to receive effective educational services, with the needed supplementary aids and support services, in age appropriate classrooms in their neighborhood schools, in order to prepare students for productive lives as full members of society.

Professor Penkhae Limsila was the first child psychiatrist to realize the importance of supporting this group of children (Likanapichitkul, 2002). Limsila is a prominent physician who has studied the treatment children with autism for many years at the Child Psychiatric Hospital, Thailand (Utairatanakit, 2001). Her research has focused on the education of young students with autism as well as the field of special education. She has offered all of her knowledge and information to parents, teachers and other interested people who want to understand children with autism, including treatments and interventions. She also invited often organizations to offer help to children with autism.

Limsila (1997) defined autism as a developmental disorder found in young children, caused by a complex brain development disorder affecting many functions of perception,
intention, and imagination. Children with autism can exhibit the disorder within the first 36 months to three years of life.

At the Yuwprasart Child Psychiatric Hospital, Limsila has developed teaching strategies to help children with autism. Parents can attend a “parent’s group” at the hospital (Autisticthailand, 2006). The major feature of the teaching strategies was to get parents involved. The hospital assists children with autism from the age of 2 years and older. These teaching strategies for children with autism are accepted in the field of education and are guaranteed by the Thai government (Likanapichitkul, 2002). The primary goals of educating children with autism are to manage problem behaviors in a regular classroom, improve children’s learning skills, and help them to better function in normal life styles (Ministry of Education, 2002). As Thailand's only Child and Adolescent Psychiatric Hospital, Yawaprasart has multiple functions. It is a center for child and adolescent psychiatric services, study, research and education, as well as for initiation and promotion of programs to prevent further psychiatric problems. The Child Psychiatric Hospital, under the Ministry of Public Health, has developed and maintained a program giving both medical treatment and limited educational intervention to children with autism spectrum disorders at all age levels. Children with autism who receive special education within the psychiatric hospital are in a restrictive environment (Likanapichitkul, 2002).

Dr. Daranee Utairatanakit is another important person in the field of education of children with autism in Thailand. Dr. Utairatanakit was a school psychologist at Kasetsart University Laboratory School (KUS) (Utairatanaki, 2001) where she implemented an intervention program of teaching children with autism (Autisticthailand, 2006). In this program, students with autism are placed in inclusive education classrooms, and also receive special education within the
psychiatric hospital. The goal of the program is to “prepare students with autism to function in normal lifestyles” (Utairatanaki, 2001, p. 3).

KUS is the first educational institute that has provided a teaching program for students with autism in inclusive classrooms for primary through high school level (Jaloenying, 2005). This program was developed through a collaborative effort between educational and medical professionals (Utairatanakit, 2001). In addition, this program is the standard for special education in Thailand (Chrontawanpanit, 2002). The school enrolls students from first grade through high school, and students with autism receive special education within the psychiatric hospital before they enroll in the public school. Every student with autism who participates in the school will have a statement on file from a physician, stating that the child is in good health and can participate in the program. These students are included in general educational classrooms and receive special education services in resource rooms (Utairatanaki, 2001). Each student must have an individualized education plan (IEP) that specifies direct educational services during the school year (Autism Society of America, 2006). A student’s IEP is based on his or her abilities and developmental level (Ministry of Education, 2002). The purposes of the program are to provide educational opportunities to students with autism, to continue to develop the program, to improve cooperation between medical institutions and academic institutions, and to study behaviors of students with autism in inclusive educational classrooms (Utairatanaki, 2001).

After the government sector and private organizations realized the importance of this group of children and began to offer information to parents and teachers, including treatments and interventions, many Thai people had a better understanding and more acceptance children with autism. Most parents who have children with autism are interested in programs of high quality for their children. The programs for teaching preschool children with autism in Thailand
are typically located in public schools and private facilities. Some programs are segregated, serving only children with autism, while other programs serve children with autism and children with other disabilities. Other programs are integrated, in which children with autism receive instruction in the same classroom as children without disabilities. Currently, there are many schools and hospitals that provide special education for students with autism in inclusive education classrooms. Based on reports from the Ministry of Education in Thailand (2006), there are 60,000 schools that provide special education for students with disabilities, including 34,000 preschools/elementary schools, and 2,400 high-schools (Autisticthailand, 2006).

Statement of the Problem

According to Handleman (1992), “Curriculum development for young children with autism is an intricate task” (p. 6). Students with autism need to develop in many areas, particularly communication and social interaction (Powers, 2000). Students with autism also need more structure to learn because they are different from other children in terms of brain development (Trevarthen, Aitken, Papoudi, & Robarts, 1998). In addition, children with autism need safe, interesting environments and equal opportunities to study just as much as other students do (Utairatanakit, 2001). Consequently, it is important, as developmental psychologists and educators, to decide on and provide high quality and effective curricula for teaching children with autism.

In Thailand, the Ministry of Education does not have a specific curriculum for teaching children with autism. The schools provide a variety of teaching strategies and curricula for children with autism in different ways. These teaching strategies and curricula depend on what individual principals and teachers decide is needed for children in their schools. In addition, curricula for teaching students with autism are based on abilities of children, teachers and
parents. Many schools create programs for students with autism that are developmentally appropriate and adopted from the foundations of formal education. The primary goals of educating children with autism are to manage the problem behaviors in a regular classroom, to improve their learning skills, and to help them to function in normal lifestyles (Ministry of Education, 2002).

However, some preschool programs or curricula for teaching students with autism are unsuccessful. Sometimes, teachers were unable to deal with the students’ challenging behaviors, and these students were removed from the schools. Moreover, these students’ development has regressed in both academic performance and social behavior. The primary reasons for unsuccessful integration were that the schools lacked standard curricula, and the teachers had little knowledge or information of appropriate strategies to teach students with autism (Utairatanakit, 2001).

Statement of the Purpose

The present study was designed to help educators better understand students with autism, and to provide additional information about appropriate education strategies and curriculum including environmental structures, communication and social skill development, and behavioral management. Most of the strategies presented in this research are beneficial to a variety of students with special needs in inclusive classrooms.

The purposes of this study were to: (1) gather information that could provide support for the development of an appropriate instructional curriculum for students with autism in inclusive educational classrooms in Thailand; (2) analyze curriculum designed to teach strategies to students with autism in Thailand; and (3) investigate problems of curricula for teaching students with autism in inclusive classrooms in Thailand. This study provided additional information for
principals and teachers in Thailand to develop instructional curricula for students with autism, to improve teaching techniques to teach their students with autism in inclusive classrooms and to promote each child develop learning in a full capacity.

Research Questions

The questions that guided this study were:

(1) What contributes to appropriate instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand?

(2) What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand?

(3) What are the problems of curricula for teaching students with autism in inclusive classrooms in Thailand?

Definition of Important Terms

For the purpose of this study, the following terms are defined:

A book by Richard L. Simspson (2005) mentioned the conceptualization and definition of autism that was originally developed by Ritvo and Freeman (1978), and the Autism Society of America (2004):

Autism is a complex developmental disability that typically appears during the first three years of life. It is the result of a neurological disorder that affects the functioning of the brain, and its associated behaviors have been estimated to occur in as many as 2 to 6 in 1,000 individuals (Centers for Disease Control and Prevention, 2005). Autism is four times more prevalent in boys than girls and knows no racial, ethnic, or social boundaries. Family income, lifestyle, and educational levels do not affect the chance of autism’s occurrence (Autism Society of America, 2004; & Simspson, 2005).

“Educating” is defined by National Research Council (U.S.), Committee on Educational Interventions for Children with Autism (2001, p. 12):

Educating is defined as the fostering of acquisition of skills or knowledge including not only academic learning, but also socialization, adaptive skills, language and communication, and reduction of behavior problems- to assists a child to develop
independence and personal responsibility. Educating includes services that foster acquisition of skills and knowledge, offered by public and private schools; infant, toddler, preschool and early education programs; and other public and private service providers.

“Young children” is defined here as children with autism who are enrolled in inclusive classrooms in Thailand at prekindergarten level through the high school level.

“Curriculum for students with autism” is defined by Ernsperger (2002, p. 37):

An appropriate and functional curriculum is defined by all of the instructional experiences and sequential learning objectives of what we teach to students. This not only addresses academic content but also includes social skill development and play and leisure skills. Most states and school districts have adopted standards for curriculum along with textbooks that focus on basic skills in language arts, mathematics, and the social sciences.

“Inclusion or inclusive classroom” means students with disabilities, including students with autism, receive their education along with students without disabilities in general education settings, and the structures of teaching should be appropriate for their abilities (Friend & Bursuck, 2000).

“Social development” refers to the individual’s development of social skills (Powers, 2000). “When placing children with autism within the regular classroom, appropriate social behavior needs to be identified for their particular classrooms” (Wagner, 1999, p. 41). “Social skills,” as defined by Powers (2000, p. 189), are: (1) engagement, the ability to remain focused and interactive (responsive) to a person or objects; (2) responding to peers when they initiate school interactions; (3) initiating social interactions with peers; (4) asking peers for assistance; (5) independent play skills; (6) taking turns; and (7) following directions from a co-worker or supervisor.

“Communication” is defined by Owen, Metz, & Hass (2003, p. 27) as “an exchange of ideas between sender(s) and receiver(s).” It means that when one person says something, another person thinks or does something in response to the action or the words (Beebe, Beebe, &
Many children with autism have experienced problems in communicating with people (speaking, listening and interacting) at some time in their lives (Wagner, 1999). These are examples of communication skills that should be taught to students with autism (Powers, 2000, p. 190): (1) understanding social gestures; (2) basic attention skills (e.g., using eye contact, responding to other children); (3) imitating other’s actions, words, and sounds; (4) using objects, action words, or both; (5) using comprehension of simple language (e.g., one-, two-, or three-word sentences); and (6) using an alternative communication system such as sign language or picture communication system.

“Cognitive development” encompasses many aspects of children’s learning and thinking (Powers, 2000). It also emphasizes the concepts of cognition, communication, and understanding social skills (National Research Council (U.S.), 2001). These are examples of cognition skills that should be taught to students with autism (Powers, 2000, p.188): (1) matching identical objects, identical pictures, and pictures to objects; (2) identifying colors, shapes, letters, and numbers; (3) telling the difference between “big” and “little”; (4) identifying and writing their first and last names; (5) reading basic and more advanced words, depending on cognitive abilities; and (6) spelling simple words.

“Sensory and motor development” refers to “responses to basic sensations and perceptions, including touches, taste, sight, hearing, and smell” (National Research Council, 2001). The child’s motor abilities develop through manipulating small objects, transferring objects from hand to hand, and various hand-eye coordination tasks.

“Behavioral problems” refer to the behaviors that children with autism usually exhibit that present problems in the classroom and interrupt the learning process for other children. It also refers to inappropriate behaviors, such as being aggressive to teachers, peers, or themselves,
throwing tantrums, spinning objects, finding it much harder to share than other children, and speaking aloud (Powers, 2000).

“Instructional strategies” refer to the methods of teaching students with autism in inclusive classrooms. The instructional strategies should be appropriate for their abilities and developmental levels (Schwartz, Billingsley, & McBride, 1996). Teaching strategies that support the development of advocacy roles have been identified and grouped into the following categories (Ernsperger, 2002; & Wagner, 1999): (1) visual strategies; (2) prompting; (3) picture exchange communication system (PECS); (4) music therapy; (5) peer tutoring; (6) sensory integration; (7) video modeling; (8) shaping; (9) motivation and reward; (10) social stories; (11) incidental teaching; (12) holding therapy; and (13) art therapy.
CHAPTER II
REVIEW OF LITERATURE

The primary purpose of the present study is to provide additional information to support for the development of an appropriate instructional curriculum for students with autism in inclusive educational classrooms in Thailand. This review concentrated on:

(1) An overview of autism
(2) Teaching students with autism in inclusive classrooms
(3) Types of inclusive classrooms in Thailand
(4) Intervention programs and approaches for students with autism

An Overview of Autism

Autism is not a new condition. It was first identified as a disorder in 1943 by an American psychiatrist, Leo Kanner (Kanner, 1943). Kanner described 11 children, with three common characteristics, that were different from other children being treated at Johns Hopkins University Medical School (Powers, 2000). He described the features of children with autism as being a lack of social interest, speech and language delay, and repetitive behavior (Kanner, 1943). The following year in Germany, Hans Asperger (1991) identified another group of childhood developmental disorders now called “Asperger’s Syndrome” (Trevarthen, Aitken, Papoudi, & Robarts, 1998, p. 5).

Autism is a developmental disorder found in young children that is presumed to be caused by a complex disorder of brain development, and affects many functions of perception, intention, and imagination (Trevarthen, Aitken, Papoudi, & Robarts, 1998).

Children with autism show symptoms and conditions within the first three years of life. It is four times more prevalent in boys than girls. (Bogdashina, 2005). Autism is not an ailment,
like measles or AIDS, that people can transmit. When autism occurs in young children, it can be treated, and may be cured (Trevarthen, Aitken, Papoudi, & Robarts, 1998).

Today, the definition of autism, according to the *Diagnostic and Statistical of Mental Disorders, 4th Edition-Text Revision (DSM-IV-TR)*, is pervasive developmental disorder (PDD), which “is characterized by severe and pervasive impairments in several areas of development: reciprocal social interaction skills, communication skills, or the presence of stereotyped behavior, interests, and activities” (American Psychiatric Association, 1994, p. 69).

Pervasive developmental disorder (PDD) includes the following conditions: (1) autistic disorder; (2) Asperger’s disorder; (3) Rett’s disorder; (4) childhood disintegrative disorder (CDD); and (5) pervasive developmental disorder: not otherwise specified (PDD-NOS) (American Psychiatric Association, 1994).

For any of the five types of PDD, children with autism must demonstrate at least three categories of behavior: impaired social relationships, impaired communication, and impaired social imagination or imaginative play (Powers, 2000).

One of the most characteristic symptoms of autism is a dysfunction in social behavior (Richman, 2001). Children with autism exhibit behavior that suggests they do not understand appropriate and comprehensive use of nonverbal behaviors. For example, they do not understand gestures, prefer isolation and are uninterested in other people, and exhibit minimal or no initiation and play skills (Powers, 2000). Children with communication dysfunction and inappropriate use of language may be overly quiet, not use their speech skills to converse with others appropriately, and may fail to imitate words or sounds (Frith, 2000). These children may also exhibit abnormal interaction in their activities and interests, such as engaging in repetitive patterns of behavior, such as flapping their hands, tapping, grinding their teeth, vacantly gazing...
off or staring, rocking their bodies, head-banging and vocalization, or having extreme focus on their toys in one pattern of behavior or routine (Richman, 2001).

Most children with autism appear physically normal; however, their performance sets them apart from others (Powers, 2000). Children with autism may focus on something or pay attention to one thing for a long time, become hysterical, display anger, or reveal no interest in people, including their parents (Robledo & Ham-Kucharski, 2005). Sometimes, their activities may seem strange, repetitive and have no specific aim (Powers, 2000). Children with autism seem to inhabit a world of their own creation. Some people with autism may exhibit talents in a particular domain, such as calculation or creativity (Richman, 2001).

Michael D. Powers (2000) explained each different type of PDD:

(1) Autistic disorder is a common type of disorder under PDD (Powers, 2000). Children who are recognized as having autism will exhibit all three characteristic of social interaction problems, difficulty communicating, and repetitive or restricted patterns of activities and interests (Ernsperger, 2002). Most children with autism are diagnosed during the first three years of life (Simpson, 2005) and are measured as having moderate to severe cognitive disabilities and mental retardation (Simpson & Zionts, 2000).

(2) Asperger’s syndrome was described by Hans Asperger (1991). The important characteristic of individuals with Asperger’s syndrome is having social interaction impairments, such as failure to develop social skills or an inability to show emotional expression (Simpson, 2005). However, children with Asperger’s syndrome show that they are high functioning in language and cognitive development (Ernsperger, 2002).

(3) Rett’s disorder is a relatively rare condition in females (Simpson, 2005).
Normally, children with Rett’s disorder appear to have normal development through the first five months after birth (Powers, 2000), and then their growth begins to decline. Children with Rett’s disorder may show “head growth, poor movement, and severe impairment of receptive and expressive skills” (Ernsperger, 2002, p. XXIV).

(4) Children identified as having childhood disintegrative disorder have behavioral symptoms similar to children who have autistic disorder (Powers, 2000). Children are generally identified as having childhood disintegrative disorder during their first two years of life, after appearing to have significant delays in language, social and motor skills (Ernsperger, 2002).

(5) Pervasive developmental disorder: not otherwise specified (PDD:NOS) was described by Michael D. Powers (2000) as “it’s like Autism, just not so severe” (p. 24). According to the DSM-IV (American Psychiatric Association, 1994, p. 77), children identified with PDD:NOS have “severe and pervasive impairment in their development of reciprocal social interaction, or verbal and nonverbal communication skills, or when typical behaviors, interests, and activities are present.”

A child with autistic spectrum disorder has the behavioral characteristics of “autistic disorder, pervasive developmental disorder not otherwise specified (PDD:NOS), and Asperger’s disorder, while two rare conditions childhood disintegrative disorder (CDD) and Rett’s disorder are left out” (Plubrukarn, Piyasil, Moungnoi, Tanprasert, & Chutchawalisakul, 2005, p. 892).

Teaching Students with Autism in Inclusive Classrooms

Currently, many researchers are focusing on how children with developmental disabilities, including children with autism, are affected by learning in inclusive classrooms (Bauminger & Kasari, 1999) and the types of interventions or curricula which are used
(Schwartz, Billingsley & McBride, 1996). Inclusive settings are designed for students with disabilities to learn and practice their developmental skills (Royers, 1996; UNESCO, 2005). These students may receive understanding, respect, and appreciation from typically developing peers. Also, students with and without disabilities may receive opportunities to practice social interactions and communication skills (Koegel & Koegel, 1995). Consequently, all students have opportunities to develop friendships and learn about appropriate socialization and communication styles in an inclusive education system (Harrower & Dunlap, 2001).

It is obvious that many children with autism attend child care facilities and recreational programs as well those primarily educational (Schwartz, Billingsley, & McBride, 1996). According to the California Department of Education, the number of children with autism who attended California public schools increased to 21,950 during the 2003-2004 school year, compared to about 4,394 students in 1995 (California Healthline, 2006). The goals for providing appropriate support in inclusive settings for students with autism are to promote a developmentally appropriate learning environment and to recommend appropriate activities for students’ abilities and developmental levels (Ernsperger, 2002).

The content of curriculum for teaching students with autism must be based on students’ ages and individual needs and abilities, to ensure adequate preparation for their futures (Ernsperger, 2002). Curriculum for students with autism should require not only support in academics, but also include a process of developing functional living skills, like social, communication, community living, behavior, motor, and vocational skills (Scheuermann & Webber, 2002).

Children with autism have unique learning needs and developmental levels (Fennick & Royle, 2003). Curriculum should provide guidelines for teaching, and curricula for teaching
students with autism must be individualized (Ernsperger, 2002). Many schools have adopted standards for curricula and textbooks that focus on academic content, such as language, mathematics, and social sciences (Scheuermann & Webber, 2002). However, Lori Ernsperger (2002) stated that an appropriate curriculum for teaching students with autism not only addresses academic content, but also includes life domains, providing a framework for curriculum development that includes the following: (1) cognitive/academic; (2) speech and language; (3) play and leisure; (4) sensory; (5) social/emotional; (6) fine and gross motor; and (7) vocational.

According to Brenda Scheuermann and Jo Webber (2002) the curriculum areas consist of (1) academic tool subjects (reading, handwriting, spelling, written expression, computer literacy); (2) academic subjects (social studies, math, science, foreign language, literature); (3) fine art (art, drama, music); (4) vocational (industrial arts, cosmetology, auto mechanics, agriculture, horticulture); (5) personal care (physical education, health, home economics); and (6) functional domains (communication, social competence, community living).

There are several methods of developing and implementing appropriate curricula for students with autism. As noted by Scheuermann and Webber (2002), all effective curriculums of teaching students with autism should have several characteristics:

(1) The curriculum should be functional. Instruction for young children with autism should begin as soon as the disability is identified. Effective early intervention programs are ones that directly teach early communication and social interaction skills, use a functional approach in addressing problem behavior, provide intensive and systematic instruction, provide parent instruction and family support, and provide transition support as the children enter preschool (Dunlap & Fox, 1999).
(2) The curriculum should emphasize communication and socialization. The curriculum content should focus on social and communication skills that are developmentally appropriate for individual students to help them function successfully in society. Teaching communication and social competence is a very high priority in inclusive preschools.

(3) The curriculum should be chronologically age appropriate. It is important for the effective curriculum to be based on the abilities of students with autism and to match their age levels.

(4) The curriculum should be longitudinal. The curriculum should contain all the life domain areas to allow students to maximize independence for the present as well as in the future. The curriculum content should serve meaningful purposes for the students.

(5) The curriculum should be horizontally integrated. An effective curriculum promotes independence by giving students the freedom to explore their learning and by supporting their interactions with materials and peers in classroom activities. Several factors contribute to the ability of students with autism to perform in inclusive education. Students should have many learning areas to choose from. Tools or aids help students learn and should be used often. Curricula should be filled with routines, and high expectations should be maintained for all students (Schwartz, Billingsley, & McBride, 1996).

(6) The curriculum should be community referenced. The curriculum should examine the required skills for students to be successful in school and the community.

According to Dunlap and Fox (1999), effective instruction considerations for students with autism include:

(1) Ensure the student is in good health, free from pain and irritation, and in a safe, stimulating and pleasurable setting.
(2) Provide structure in the environment, with clear guidelines regarding expectations of behavior.

(3) Provide tools, such as written or picture schedules, to ensure that the flow of activities is understandable and predictable.

(4) Base the curriculum on the student's individual characteristics, not on the label of autism. A diagnosis of autism does not indicate what or how to teach.

(5) Focus on developing skills students will use in their current and future lives in school, home, and community.

(6) Carefully plan transitions to new placements and new school experiences.

(7) Encourage parents and other family members to participate in the processes of assessment, curriculum planning, instruction, and monitoring. They often have the most useful information about a student's history and learning characteristics, so effective instruction should take advantage of this vital resource.

According to Furneaux and Roberts (1977), there are three factors that are important for teaching students with autism in inclusive classroom: teachers, parents, and environment.

“As children with special needs are increasingly placed into regular classrooms, the need for qualified teachers is growing” (Samahito, 2001, p. 104). Therefore, the first factor that appears to be absolutely crucial is teachers. Teachers who will be successful working with autistic children need to be especially skillful. They have to accomplish the normal academic and social goals of all educational processes, as well as to be kind, gentle, warm, and capable of developing personality. They must be personally secure so that they are able to admit and accept when children with autism make mistakes (Furneaux & Roberts, 1977). It is also important that
other professionals, like the school speech therapist, occupational therapist, special education teacher, and counselor, are included in the child's web of adult resources (Powers, 2000).

Besides teachers, parents are a main support in the development of children with autism. Nurturing the parent-teacher relationship is a key. A conference with the child's parents should be held prior to the beginning the school year. Parents can help identify a child's learning patterns, current cognitive skills, and the behavioral techniques that will foster interaction with other students (Hecimovic, Powell, & Christensen, 1999). The parents should know about school and what happens there, and they should have the opportunity to see their children at school. Therefore, parents must discuss their children with teachers and should meet with specialists. Parents are capable of using behavioral principles and applied settings to change children’s behaviors (Furneaux & Roberts, 1977).

Environments are also important to consider when teaching children with autism because environments can lead to brain development or impairment in children with autism (Furneaux & Roberts, 1977). These environmental factors include the classroom and tools. In the classroom, teachers provide intervention procedures to teach new skills or change behavior, and use appropriate tools to help evaluate new methods of teaching students with autism (Hecimovic, Powell, & Christensen, 1999). The classroom should be provided with few doorways to minimize escapes, a bathroom in the classroom or nearby, specific learning stations to provide order, and organized supply bins to help the students in getting their own materials. Quiet areas should be designated for individual learning, with group activities taking place on the other side of the room. Students with autism usually find the normal hum of classroom activity extremely distracting. Classroom environments must provide students with information on events,
activities, and expectations in a manner that students with autism can easily understand (Bogdashina, 2005).

According to Susan P. Gregory (1996), the advantages of teaching children with disabilities, including children with autism, in inclusive educational classrooms are:

(1) Children with disabilities have just as many good opportunities to study as other students.

(2) Since they are in a general education classroom, children do not feel as if they are different from others.

(3) Children with disabilities will understand, respect, and value others for their differences.

(4) It is an opportunity for children with disabilities to have friendships and learn about socialization.

(5) Parents of children with disabilities can save money because private special educations may be more expensive.

(6) The government can save money supporting educating children with disabilities in general education classrooms.

Types of Inclusive Classrooms in Thailand

The Ministry of Education (2004) provided a description of inclusive classrooms, which give equal educational opportunities to all children with disabilities and offer suggestions on structuring the learning environments to allow for flexibility. There are six categories of inclusive classrooms in general schools for teaching students with disabilities, including:

(1) Full-time inclusive classrooms or full-inclusion. This is a system that allows for students with and without disabilities to participate together in activities and learn in the same
class. The general schools serve students with autism and other special needs for the entire school day. Thus, these students function at very high levels and should not interfere with the other students’ learning.

(2) Inclusive classroom with consultant services. Students with disabilities attend in general schools with students without disabilities. Consultants serve to advise students with autism, parents, teachers, and principals. Consultants also identify areas of need and activities that offer teaching and management suggestions. In addition, consultants provide individualized education plans (IEP) for each student with a disability.

(3) Inclusive classroom with teacher outside school services. Students with disabilities attend general schools with students without disabilities and receive special education from walking-teachers. Walking-teachers are invited from several schools and serve to advise autistic students, teachers, and principals. One walking-teacher is responsible for teaching at least three students.

(4) Inclusive classroom with tutor teacher service. Students with disabilities attend general schools with students without disabilities. Tutor teachers help students to gain a better understanding of academic skills and develop student skills. Normally, tutor teachers serve students in resource rooms. One tutor teacher is responsible for teaching at least six students.

(5) Full-time special classroom. Students with disabilities attend special education classrooms for the entire school day. However, these students can have some activities, just like other students, depending on physical, emotional, social, and behavioral skills.

(6) Part-time special classroom. This is a placement that includes only students with disabilities. Students in part-time special classes attend special education classrooms for most of the day, but are integrated into general education classrooms for a few class periods.
Another category that the Ministry of Education provides for students with autism is parallel classrooms in general schools (Koworakul, 2006). This category serves only students with moderate to severe autism. These children with autism may not show any physical signs of their disabilities. Students with autism receive educations similar to students without disabilities. The teacher-to-students with autism ratio in these classrooms is 2:3 or 3:5 per one parallel classroom. Two teachers are responsible for teaching at least three students.

The curriculum for teaching students with autism in parallel classrooms is an integrated education that consists of three parts:

(1) It should be based on the individual potential and abilities of students with autism;

(2) There should be collaboration between medical and educational professionals in adjusting behavioral problems of students with autism; and

(3) Curriculum for teaching students with autism in parallel classroom should be adopted from the foundations of formal education that are developmentally appropriate.

The aim of this education system is to prepare students with autism to lead normal independent lifestyles. In addition, the curriculum for teaching students with autism in parallel classroom should emphasize the classroom environment, and appropriate activities and routines that can help children with disabilities (Ministry of Education, 2002).

Intervention Programs and Approaches for Students with Autism

Applied Behavior Analysis

Applied behavior analysis (ABA) provides the framework for structuring learning environments individually and in flexible ways (Powers, 2000). Professionals observe children with autism by looking at and recording many events that happen to them (Heflin & Simpson, 1998). The main objective of applied behavior analysis is to help children with autism learn
various new skills for basic responses (Simpson, 2005). The skills taught by using ABA include speech, responsive language, academic readiness, and letter recognition (Scheuremann & Webber, 2002). Applied behavior analysis is an efficient and effective method of instruction because it focuses on adapting some materials and activities for students with autism. It also makes the most out of the activities in the Active Learning Series (Simpson, 2005), while helping students use their skills, be safe, and have fun. As a result, students regularly use the skills they have learned in many different situations (Harris & Weiss, 1998).

**Discrete Trial Instruction**

Discrete trial instruction (DTI) is a critically important teaching method used in applied behavior analysis for teaching autistic children because it provides a very clear and simple framework. The DTI approach should be employed while children with autism are in the early stages of learning (Harris & Weiss, 1998).

Discrete trial instruction is an effective instructional format for teaching specific skills in an intensive, efficient manner (Scheuermann & Webber, 2002). Skills are taught within a highly structured, one-to-one format providing clear and concise instruction, an additional prompt (as necessary), and an explicit reinforcement (reward) for performing the skill successfully. Discrete trial training typically uses a least-to-most prompting hierarchy, moving from a verbal prompt to physical guidance when verbal and nonverbal prompts are inadequate. Trials of instruction are provided on a single behavior in a massed fashion with only a brief pause between trials (Scheuermann & Webber, 2002).
Treatment and Education of Autistic and Related Communication Handicapped Children

Treatment and education of autistic and related communication handicapped children (TEACCH) is a program that provides services for children and adults with autism. It was developed by Erich Schopler (Division TEACCH, 2006) and was established as a state-wide program in North Carolina in 1972. It is a developmental program established on the assumption that certain developmental skills are prerequisites to learning. Following Schopler’s study (1997), structured teaching became a program for working with children with autism (Mesibov, 1997). Schopler (1997) suggested that structured teaching would benefit greatly by understanding that students with autism show better performance in visual activities than in verbal activities. TEACCH uses structured teaching as its principal technique. The classroom is structured physically, in scheduling and in teaching method to provide continuity for children with autism who are in classrooms with other children with disabilities. Every child has his or her own workstation and clear indications of where each educational activity will occur (Mesibov, 1997).

The objectives of TEACCH (Nebraska Special Education Advisory Council, 2000, p. 47) are: (1) to maximize adaptation through structured teaching of new skills; (2) to develop environmental modifications to accommodate the child’s deficits; (3) to maintain close collaboration between teacher and parent; (4) to provide a continuity of structured teaching throughout life; and (5) to prevent the development of further behavioral problems.

Task Analysis

Task analysis is a teaching method involving breaking skills down into subskills or breaking content down into subcontent (Scheuermann & Webber, 2002) that is easy for learners
to follow step by step. Also, a task analysis provides a list of essential subbehaviors required for mastery of the task or activity. Using task analysis has two directly teaching approaches: (1) forward chaining: learning from the first step to the last step; (2) backward chaining: learning from the last step to the first step (Scheuermann & Webber, 2002). Additional teaching approaches might include:

(1) Break tasks into component parts and teach each component
(2) Plan tasks at appropriate level of difficulty
(3) Pace tasks at student’s level
(4) Allow adequate time for processing information
(5) Wait with patience for student response
(6) Employ student interests to motivate and teach new skills
(7) Highlight important information

*Visual Strategies*

According to Wagner (1999), visual strategies are the most recommended instructional technique for teaching students with autism. Young children with autism learn well through what they see (Layton & Lock, 2003). Moreover, visual aids, or tools, are designed to help students with autism with their learning, communication process, and to develop their understanding (Layton & Lock, 2003). Visual strategies can be made simple, and can include daily schedules, individualized mini-schedules, activity checklists, choice boards, labels on objects and containers, classroom rules, illustrations or symbols, and visual representations of steps in personal or class routines (Special Programs Branch, 2000).
The Picture Exchange Communication System

Children with autism who function at moderate or high levels are able to explain or communicate what they are thinking. Children with autism who have lower functioning skills need to acquire effective communication modes. In these cases children can communicate with a picture exchange communication system (PECS) to help them acquire these skills (Schwartz, Billingsley, & McBride, 1996). PECS teaches children to communicate with pictures and symbols to develop functional communication (Heflin & Simpson, 1998). Students with autism often struggle to express what they need or what they do not understand. Teachers can address this by providing an organized classroom with specific areas that the student can identify through verbal or visual clues. Pictures and words should be used all around the classroom to help identify areas such as where coats and lunches are stored, pencils are sharpened, and books are put on the shelf. Designating a time-out area where students can go for quiet, when over-stimulation occurs, is also beneficial. (Hecimovic, Powell, & Christenoen, 1999).

Peer Tutoring

Peer tutoring is an important and necessary developmental learning skill for children with autism (Garfinkle & Schwartz, 2002). This approach allows socially competent peers to learn to use effective teaching techniques and positive reinforcement to teach academic subjects to classmates with autism. Peer tutoring programs represent a viable means of improving social interaction skills of children with autism (Hecimovic, Powell, & Christenoen, 1999). The teaching strategy of peer tutoring facilitates interaction between children with autism and their socially competent peers. In peer tutoring sessions, children work in dyads with socially competent peers who typically serve as tutors while children with autism take the role of tutee (Scheuermann & Webber, 2002).
Social Stories

Social stories are brief, structured stories that describe specific social situations a student will encounter, and appropriate responses to the social stimuli (Scheuermann & Webber, 2002). “The goal of the story is to increase the individual’s understanding of, make him more comfortable in, and possibly suggest some appropriate responses for the situation in question” (Wallin, 2004, p. 1). The idea of social stories is a way to provide concrete information to help improve students’ social skills and appropriate behaviors (Special Programs Branch, 2000). Social stories can be designed by teachers, parents, or groups of students. Social stories generally have:

1. Descriptive sentences, which provide information about the social content (setting, people, activities, etc.);
2. Descriptive sentences, which tell the student what to do;
3. Perspective sentences, which describe feelings of individuals involved in the situation.

Self-Monitoring

Self-monitoring strategies prepare children to prompt or monitor their own behavior and to help promote independent performance (Scheuermann & Webber, 2002). Self-monitoring involves targeting a specific behavior, then teaching the student to systematically record each time that behavior is performed. The following are the steps in self-monitoring:

Step 1: Completing the task. Teaching children with autism to complete the task and to practice counting involves teacher guidance to prompt them to remember how to complete the task. Task analysis outlines the steps. These steps are practiced every day. A teacher or teacher assistant accompanies children and provides prompts when necessary.
Step 2: Using pictures to represent objects and numbers. For example, the delivery list supplied by the school’s main office is printed on one sheet of paper. The list includes each preschool teacher’s name and the number of cartons of each type of milk that each has ordered. To help the children recognize different kinds of milk, photos of the milk cartons are used.

Step 3: Self-monitoring to increase student independence. To reduce the amount of teacher prompting and to increase the likelihood that the children will learn to count independently, we used a self monitoring strategy.

This strategy prepares children to prompt or monitor their own behavior and to help promote independent performance (Scheuermann & Webber, 2002). According to Copeland and Hughes (2000), a picture prompt strategy could be used to increase the independence of high-school age students with severe disabilities.

_Holding Therapy_

One of the biggest concerns of dealing with autism is decreasing emotional disturbance. Psychoanalytic approach addresses emotional problems and helps children with autism to cope with anxiety, fears, and depression (Howlin, 1998). Holding therapy focuses on the relationship between parent and child and encourages use of sounds of particular frequencies (Schoen, 2003). Holding therapy consists of forced holding, by a therapist or parent, until the child stops resisting or until a fixed time period has elapsed. Sometimes the child is not released until there is eye contact (Hunt, n.d.).

_Music Therapy_

This is a vehicle or modality for emotionally connecting with the individual through music (Yapko, 2003). It also emphasizes expressive movement and verbal interaction skills. Therapists use sound and music to support and encourage physical, mental, social, and emotional
development (Bunt, 1994). Music therapy includes singing, moving to music, and playing instruments. It is supposed to be a good medium for children with developmental disabilities because it requires no verbal interaction.
CHAPTER III

METHODOLOGY

The purpose of the study was to provide additional information for principals and teachers to support for the development of an appropriate instructional curriculum for students with autism in inclusive educational classrooms, to analyze a curriculum designed to teach strategies and to investigate problems of curricula for teaching students with autism in inclusive classrooms in Thailand. The present study was designed to help educators better understand students with autism, and to provide additional information about appropriate teaching strategies and curriculum including environmental structures, communication and social skill development, and behavioral management. Most of the strategies presented in this research are beneficial to a variety of students with special needs in inclusive classrooms.

The researcher combined three qualitative methods to gather data: (1) semi-structured interviews (Creswell, 2005, p. 598) with the principals and teachers of each school; (2) document collection and analysis (Gall, Gall, & Borg, 1999, p. 297) of the curriculum and lesson plans that are implemented in the six schools, and (3) nonparticipant observations (Creswell, 2005, p. 212) of teachers’ instruction in the inclusive classrooms. The combination of using multiple methods is called triangulation (Ary, Jacobs, & Razavieh, 2002). “Triangulation helps to eliminate bias that might result from relying exclusively on any one data collection method, source, analyst, or theory” (Gall, Gall, & Borg, 1999, p. 574). The aim of using triangulation is to gain a greater understanding of some aspect of human behavior and the validity of the findings (Burton & Bartlett, 2005).

The semi-structured interview is the most useful interview tool to verify an interviewee’s information about values and attitude (Goldsmiths University of London, 2007).
Creswell (2005) described the semi-structured interview as a series of structured questions asked by the interviewer that offers a topic of interest followed by more close-ended questions and open-ended questions to obtain additional information. The semi-structured interview was recorded and transcribed yielding descriptive data.

The semi-structured interviews in the study guided the principals and teachers to identify and describe features of the curricula for students with autism in inclusive educational classrooms. Questionnaires and open-ended questions were used for these interviews. The questionnaire for each teacher asked for general information about the teacher, type of school, and the selected child with autism. The open-ended questions asked about teaching strategies, support systems, and professional updating to improve students with autism achievement and learning skills in inclusive classrooms. The questionnaire for principals asked about educational planning, learning environment, instruction and support services. Each of these sections included practices that were acknowledged to be effective in inclusive educational placements for children with autism.

Both principals and teachers analyzed methods for teaching students with autism in inclusive classrooms, including materials and teaching strategies. The interviewer predetermined extended questions and follow-up questions, and the questions emerged as the interview situations evolved. The information obtained from the interviews added to and supported the questionnaire results. The interviews were conducted in Thai language, and were translated into English for data analysis.

Document collection and analysis of the curriculum and lesson plans were implemented in the schools. These sources provided valuable information to gain an understanding of “official perspective on programs, the administrative structure, and other aspects of the organization”
Document collection and analysis consists of two types of sources: (1) public sources, such as school curricula, official documents, textbooks, newspaper articles, and letters; and (2) private sources, such as journals, personal notes, memos, newsletters, and minutes from meetings (Creswell, 2005).

Nonparticipant observation of teachers’ instructional methods in the inclusive classrooms was considered appropriate in order to improve teaching strategies and student learning skills with autism in inclusive classrooms. Creswell (2005) described the nonparticipant observation as “the status of observer or researcher is being observed without becoming involved in any activities of the participants” (p. 212). The purposes of using nonparticipant observations in this study were to observe teachers using strategies and interacting with students with autism in inclusive educational classrooms, and to investigate enriched environments to help students with autism develop and learn to their full potential. Field note observation was recorded on the nonparticipant observation form designed to suit the purpose of observations. The observation focused attention on the teacher’s uses of strategies, classrooms, and materials. Thus, observation of the children was not a part of this research study. There was no interference with the teaching process or with classroom activities. This study also had no negative impact on the children’s status. In addition, the observations were conducted at mutually agreed upon times and locations so as not to interfere with children’s learning in inclusive educational classrooms.

Participants

This research study was conducted in Thailand. The participants in this study included six principals, and 24 teachers at six schools. One principal and four teachers were interviewed at each of the six selected schools regulated by the Office of Basic Education Commission, Ministry of Education, in Thailand. These participants also responded to questions about their
educations, degrees, years of teaching experience, knowledge of autism before teaching, and frequency of training or conferences. In addition, one inclusive classroom was observed for each of the six selected schools.

The principals and the teachers were selected because they were the individuals responsible for the creation and implementation of programs and curricula for teaching students with autism. They were also in close contact with the students with autism for the entire educational year. The criteria for selecting the principals and teachers included: (1) the principals and the teachers must have had some early childhood training during the past three years; (2) the principals and teachers must have worked in their schools for more than one educational year each.

Setting

In Thailand, educational administration and management is conducted by the states, by local administration organizations and by the private sector. The organization and administration of the program of Special Education and Education for the Disabilities is located in the Office of Basic Education Commission within the Ministry of Education. “The Office of the Basic Education Commission (OBEC) is mandated to propose policies, plans, and standards, and develop curriculum for basic education.” Currently, the commission supervises approximately 33,000 schools all over the country through 175 educational service areas (Ministry of Education, 2004).

A total of six schools participated in this research study. These schools were under the Office of the Basic Education Commission, Ministry of Education in Thailand. Two schools for each unit were under the Ministry of Education in Thailand. (Schools 1 and 2 were under the Department of Education Bangkok Metropolitan Administration, Schools 3 and 4 were under the
Commission on Higher Education, and Schools 5 and 6 were under the Office of the Private Education Commission).

The criteria for selecting schools as sites included: (1) the school must have at least a three-year curriculum for teaching students with autism; (2) the school must have students with autism in an inclusive classroom; and (3) the principals and teachers in the school must have been working there for more than one educational year.

Research Design

Three qualitative methods were used to gather data:

*Semi-structured interviews* with the principals and teachers of each school. Each interview lasted approximately one hour. Questionnaires and open-ended questions (see detail in Appendix A) were used for these interviews. The questionnaires and open-ended questions in this study were used to investigate what constitutes teaching strategies for students with autism in inclusive classrooms and to analyze the teaching curriculum designed to teach strategies to students with autism in Thailand. The data from the semi-structured interviews with the principals and teachers answered the following research questions:

1. What contributes to appropriate instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand?
2. What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand?
3. What are the problems of curricula for teaching students with autism in inclusive classrooms in Thailand?

A three-part questionnaire was developed to answer these three questions. Part 1 of the questionnaire consisted of 13 items asking for personal and institutional background information,
such as gender, age, years of teaching, degree of education, and knowledge of teaching. Part 2 of
the questionnaire consisted of six items, asking for information to determine the eligibility of the
participant for the study, to identify the type of institution, the location of the school, and the
type of the curriculum. Part 3 concerned resources in the development of the protocol in this
study. Items were rated on the following scale: 1 Never, 2 Rarely, 3 Sometimes, 4 Often, and 5
Always. Intervention programs/approaches and teaching strategies that support the development
of advocacy roles have been identified and grouped into the following categories (Ernsperger,
2002; Wagner, 1999):

(1) Applied behavior analysis (ABA), such as visual strategies, prompting, and picture
exchange communication system (PECS)

(2) Peer tutoring

(3) Sensory integration

(4) Video modeling

(5) Motivation and reward

(6) Social stories

(7) Incidental teaching

(8) Music therapy

(9) Treatment and education of autistic and related communication handicapped children
(TEACCH)

(10) Holding therapy

(11) Floor time

The principals and teachers analyzed their programs for teaching students with autism in
inclusive classrooms, including materials and teaching strategies. Interviews were conducted at
mutually agreed upon times and location so as not to interfere with the regular duties of principals and teachers. Neither extended questions nor follow-up questions were predetermined, and the questions emerged as the interview situations evolved. Information obtained from the interviews added to and supported the questionnaire results. The language used was Thai. The interviews were translated into English by the researcher for data analysis. Interviews with principals and teachers were audio to record in addition to written notes.

*Document collection and analysis* of the curricula and lesson plans of practices implemented in the schools. The research considered information from public sources and private sources.

*Nonparticipant observations* of teachers’ instructional methods in the inclusive classrooms. The researcher observed teachers using strategies and interacting with students with autism in inclusive educational classrooms. Each observation period lasted for 60 minutes. The observation form consisted of 23 Likert scale items, developed by the University of North Texas Center of Autism Research and Education Programs in Special Education. Callenhan (2004) designed the form to analyze the teaching strategies for students with autism in Thailand. Items were rated on the following scale: 1 *Definitely not observed*, 2 *Mostly likely not observed*, 3 *Uncertain if activity is observed*, 4 *Possibly observed*, and 5 *Definitely observed*. Field note observation was recorded on the nonparticipant observation form (see detail in Appendix E) designed to determine the level of importance that participants attached to selected advocacy skills and strategies.

Demographic information was collected to assist the researcher in understanding the phenomenon being studied. Demographic information included: the size of the institution of the
participant, geographic location of institution, professional affiliation, years of operation of the program, and personal information about the participant.

Procedures

At the beginning of December 2006, the researcher submitted a letter of recommendation from my UNT major advisor to the Office of the Basic Education Commission under Ministry of Education in Thailand and asked an official of the office to suggest which schools should be selected for the sites. The Deputy Secretary-General of the Basic Education Commission gave a list of schools under the Office of the Basic Education Commission in Thailand. Thanks to this list of schools, the researcher collected data at six schools as sites for the study. The researcher identified the specific schools upon my arrival in Thailand in May 2007.

The participants in this study consisted of six principals and 24 teachers at six schools under the Office of the Basic Education Commission in Thailand. At the beginning of the spring 2007 semester in the United States, the researcher received a letter of permission to approach the research on students with autism in inclusive educational classrooms in Thailand from the Deputy Secretary-General of the Basic Education Commission. In the letter, the researcher asked the principals and teachers at the selected schools to cooperate and to facilitate the study.

Data Analysis

The primary purpose of the present study is to enhance understanding of comprehensive teaching strategies for students with autism in inclusive educational classrooms in Thailand. Principals and teachers were asked, through interviews, to provide input regarding program quality and effectiveness. The research design was both quantitative and qualitative in its guest to investigate the appropriate and instructional curricula used to promote teaching students with autism in six inclusive classrooms in Thailand. I used open-ended questions to obtain
information regarding the understanding of the teaching curricula. The questions included relationships between teachers and students with autism, knowledge of teaching, strategies, developmentally appropriate material and methodologies, and suggestions for quality teaching curricula for students with autism.

Data from this study involved descriptive research consisting of semi-structured interviews, document collection of the curriculum and lesson plans, and nonparticipant observations. The questionnaires and open-ended questions in this study were used to investigate what constitutes teaching strategies for students with autism in inclusive classrooms in Thailand. The data information was coded and divided into response categories. Furthermore, descriptive statistics were used for analysis of the teaching strategies designed to teach students with autism in Thailand.

I transcribed interview data in Thai, translated to English, and entered into a word processor. After collecting data, I utilized NVivo7® qualitative data analysis management software program (Qualitative Solutions and Research PTY Ltd., Melbourne, Victoria, Australia, http://www.qsrinternational.com) to facilitate the analysis of the interview data, the contents of strategies for teaching students with autism, the contents and objectives of the school curricula, and the lesson plans. Commonalities between observations and created nodes for handling the various pieces of information were sought. Automatic data coding generated a system that was used to prepare a matrix. “Qualitative data analysis is a term applied to a wide range of methods for handling data that are relatively unstructured and which cannot appropriately reduce to number; the data come from interviews, field notes, documents and focus groups” (QSR, 2004, p. 3).
Data was analyzed through a coding strategy based on suggestions provided by Miles and Huberman (1994). Coded statements were analyzed and collapsed into categories. The development of this coding system required reading through the data and looking for patterns and topics. Analysis included reports listing text units based on coded entries, and tables showing frequencies of text units. Sample principal and teacher responses were also provided.

For quantitative data analysis, the data was analyzed using SPSS® 14.0 statistical and data management package (SPSS Inc., Chicago, www.spss.com). I used descriptive data analysis, including frequency, mean, and standard deviation to address the second research question. Frequencies and percentages for each teaching strategy were reported in chart essays. The means and standard deviations were computed on each of the 23 observation items to explore teaching strategies to improve achievement of students with autism and learning skills in inclusive classroom. Tables display data for easy discussion.
 CHAPTER IV

RESULTS OF THE STUDY

The primary purpose of the present study is to provide additional information to support for the development of an appropriate instructional curriculum for students with autism in inclusive educational classrooms in Thailand. This study explored contributes to appropriate instructional curricula to promote teaching of students with autism in six inclusive classrooms in Thailand; which teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand; and the problems of curricula for teaching students with autism in inclusive classrooms in Thailand. The study was designed to help educators better understand methods for teaching students with autism and to provide additional information about appropriate educational strategies and curricula, including environmental structures, communication and social skills development, and behavioral management. Most of the strategies presented in this research are beneficial to a variety of students with special needs in inclusive classrooms.

To address these questions, six inclusive classrooms served as the sites of the investigation. Six principals and 24 teachers participated in this study. The study involved in-depth interviews of all the participants, observation of teachers’ instructional methods in classrooms, and document analysis of school curricula and lesson plans relating to teaching curricula and teaching programs.

The results of this study are described in three main sections. The first section contains the description of the six sites. The second section includes demographic data collected about the principals and teachers. The third section is an analysis of quantitative and qualitative data and answers all of research questions. The research design was both quantitative and qualitative in its
guest to investigate the appropriate and instructional curricula used to promote teaching students with autism in six inclusive classrooms in Thailand. NVivo7® qualitative data analysis management software program (Qualitative Solutions and Research PTY Ltd., Melbourne, Victoria, Australia, http://www.qsrinternational.com) was used to further analyze the interview and observation data. This software was developed by Qualitative Solutions and research PTY Ltd. (QSR) to support the management of qualitative data analysis projects. Transcribed data for each interview was entered into text files. The text was searched and indexed (coded) by the defined text units. Using automatic coding of the data via search techniques designed to generate code, a data matrix was prepared. Analysis for each question included reports listing text units, coding, and tables showing frequencies of text units. SPSS® 14.0 statistical and data management package (SPSS Inc., Chicago, www.spss.com) was used to maintain and analyze the quantitative data in the present study. Tables display data for easy discussion.

Description of Sites: The Schools

Six schools were selected for the study based on the following four criteria: (1) the school must have at least a 3-year program; (2) the school must enroll more than a total of 30 children; (3) the principals and teachers of the school must have had some special educational training; and (4) the principals and teachers must have been working there for more than 1 academic year each. Four schools in Bangkok and two schools in provincial areas were selected. Schools 1 and 2 were under the Department of Education Bangkok Metropolitan Administration, Schools 3 and 4 were under the Commission on Higher Education, and Schools 5 and 6 were under the Office of the Private Education Commission.
School 1

The first school chose for observation was in a suburban area in western Bangkok located near the temple. The school was under the Department of Education Bangkok Metropolitan Administration. This school was divided into two locations, which were separated by a small street. The first location included one building for kindergarten and elementary students, one cafeteria and one playground. The second location included two buildings for elementary students and a large sport ground.

The school consisted of 1,080 students (1,000 elementary students and 80 kindergarten students) and contained 47 students with special needs (33 students with intellectual disabilities, 3 students with deafness or hearing impairment, 11 students with autism and 1 student with multiple disabilities). The school was separated into classrooms for each type of student with disabilities. Normally, the school serves students with autism in a separate classroom. There were only four students with autism capable of attending school in the inclusive classrooms at the elementary level. This meant that these students with autism functional at very high levels so they should not interfere with the other students’ learning. Students with autism attended the special education classroom for most of the day, but were integrated into general education settings with students without special needs for class periods such as music, drawing, and physical exercise class. The school provided the teaching curriculum for students with autism from the individualized education program (IEP) for every student with autism. The IEPs were based on each student’s abilities and developmental level.

The principal and 3 teachers who were the participants at this site had worked in the school for almost 10 years each. Another teacher had worked there for more than 2 years. The principal and 1 teacher each held a master’s degree in higher education and special education.
The other 3 teachers held bachelor’s degrees in the field of education. The schools sent teachers to have training at least three times per semester.

Students with autism had their classrooms in the building, which was divided into three floors. There were six classrooms on the first floor. Three classrooms were used for average kindergarten students, and the other three classrooms were used for kindergarten students with special needs. Special Classroom 1 contained nine students with special needs (three students with autism and six students with intellectual disabilities). Special Classroom 2 also contained nine students with special needs (four students with autism and five with intellectual disabilities), and Special Classroom 3 contained 7 students with special needs, (two students with autism and nine intellectual disabilities). On the second and third floors, there were six classrooms used for elementary students. There were four common restrooms used by students of both genders. Near the restrooms, which were located in a separate small building at the back of the school facing the playground equipment area, there were two large water tables consisting of sinks with twelve taps. Every day, after students finished lunch, they brushed their teeth, washed their hands, and cleaned their faces in these large sinks. Lunch was served in the cafeteria.

The school had a large playground and a small playground. The small playground was specifically for students with special needs. It was a safe, clean area designed for children to play freely. The natural playground had a lot of flowers and trees. Every morning, students with special needs, including students with autism, and teachers came to respect the Thai national flag, pray and exercise for 20 minutes.

Each special needs classroom had one teacher and one teacher assistant. Only Classroom 3 had another parent who came to help the teacher and to take care of her own child. The slogan
of the school displayed in front of the building was “Intending Study, Having Good Behavior and Being Nice Students.”

In general, the school’s classrooms appeared neat and well-decorated. Toys (e.g., a variety of puzzles, logos, and animal toys), and art materials (e.g., crayons, pencils, markers, water colors, brushes, glue, and paper) were kept together on shelves or in containers with labels or pictures. In the corner of the classroom, there were audiovisual materials (television, computers, radio, and tape cases) systematically designed for free time activities. Students’ desks were arranged in one large circle. On the shelves, each child had a paper box covered with colorful paper for individual storage. On the wall, boards were filled with students’ artwork. There were also attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors were used to introduce class members.

School 2

The second school was in a suburban area in western Bangkok, also located near the temple. The school was under the Department of Education Bangkok Metropolitan Administration. It was located in the same district as School 1. The school was capable of enrolling about 340 students, ages 5 to 12 years, divided into kindergarten and elementary levels. The students who attended this school came from middle-and lower-income families and were residents of the district. There were 22 students with autism enrolled at the school. Normally, the school served students with autism in the special needs classrooms. There were only six students with autism who were capable of attending school in the inclusive classrooms. These six students with autism attended special education class for most of the day, but were integrated into general education settings with students without special needs for a few class periods, such as music,
drawing, and physical exercise class. The slogan of the school displayed in front of the building was “Eruditely, Patiently, Steadily, and Mercifully.”

The school comprised three big buildings. Students with autism lived in the main building which was divided into three floors. The first floor housed the administrative office of the principal, the audio-visual education room, and the meeting room was on the second and third floors. There were four classrooms for students with special needs. Each classroom contained 10 to 12 students with disabilities. Students who were highly and moderately functioning were on the second floor, and were taught by one teacher and one assistant teacher. Students who had lower functioning were on the third floor, and were also taught by one teacher and one assistant teacher. The playground was a safe, clean place for all the students to meet, pray, respect the Thai national flag and exercise for 20 minutes every morning. There were six gender-specific restrooms in a small building nearby.

The classroom was divided into six center areas: blocks center, home center, writing center, visual center, books center, and computer center. The centers appeared well organized and useful. There were a lot of educational aids (e.g., picture exchange communication system (PECS), children books, computers, televisions, radio, and tape cases) and toys (puzzles, logos, balls, and puppets) at the back of the classroom. Students’ desks were arranged in two large rectangles, boys and girls included in each. On the shelves, each child had a paper box covered with colorful paper for individual storage. On the wall, boards were filled with students’ artwork. There were also attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors were used to introduce class members.
The principal and 1 teacher who were the participants at this site had worked in the school for almost 5 years each. The other 3 teachers had worked there for more than 2 years each. The principal and 1 teacher held master’s degrees in higher education and special education. The other 3 teachers held bachelor’s degrees in home economics and child development in the field of education. The school used a parallel classroom to provide a teaching program for students with autism. Students with autism received education similar to students without autism. The curriculum for teaching students with autism in a parallel classroom was adopted from the foundation of formal education that was appropriate based on the abilities of these students.

**School 3**

This school was in a suburb of Bangkok. The school was under the Commission on Higher Education and was located on the campus of university. The school provided general education for children from prekindergarten to high school level. The school also provided education for students with different developmental needs, and the special educational program was for students with special learning needs such as physical or emotional disabilities, speech and learning disabilities, and visual impairment. There were 66 students with autism at this school. This school had developed its own curriculum based on the Ministry of Education’s curriculum. All staff members had helped to adjust the school curriculum so that the subject matter, skills and morality content were relevant to the needs of their students. Moreover, this school cooperated with the Child Psychiatric Hospital to provide this program to students with autism who had been elementarily trained by the hospital. Children with autism received special education within the psychiatric hospital before they were enrolled in the school. Therefore, the school did not have a separate classroom for students with autism. These students with autism
were fully included with students of the regular program. This process had to approve by their parents in cooperation with the specialists.

The school was divided into six buildings. It was quite a large school, capable of housing about 3,287 students, 338 teachers, and 162 staff members. The school had a beautiful campus with many large trees. The big playground in front of the school building included flowers and a sloped area shaded by large banyan trees. Krapeejan, a perennial plant, and was the official flower of this school. It had purple flowers which bloom in an orderly way. The playground was where all the students met, prayed, respected the Thai national flag and exercised for 20 minutes every morning. The slogan of the school displayed in front of the building was “Intelligence, Endurance, Steadfastness and Morality Lead Practitioners to Success.” Purple and white were the official colors of this school. Students were required to wear two uniforms, one for regular school days (a white, collared shirt and purple skirt for girls, and purple short pants for boys) and a second one for special physical exercise day (purple t-shirts and black trousers for both of boys and girls). Students were also required wear neat shoes, like tennis shoes, and not sandals or flip-flops to classes.

The principal, who was the participant at this site, had worked in the school for almost 25 years and held a doctoral degree in psychology. The 4 teachers had worked there for more than 2 years each and held master’s degrees in physical education, teaching education, and early childhood education. The school had a special program for students with autism, which was developed collaboratively between educational and medical professionals. This program provided full-time inclusive classroom for students with autism. In the classroom, students with autism received the same education and activities as their peers for the entire school day. These
students with autism functioned at very high levels, so they did not interfere with the learning of other students.

Each general classroom consisted of two head teachers and approximately thirty students. However, the general classrooms with students with autism had extra special education assistant teachers attending to these students. The school provided the special education assistant teachers to help these students gain better understanding of academic skills, and to develop and strengthen students’ skills in social-emotional, communication, sensory, cognitive, and motor development areas. One assistant teacher was responsible for taking care of one or two students with autism. Assistant teachers were required to have at least two years of teaching experience with young children. The school administrator observed their work for four weeks before they were hired, and the school provided a special training for these assistant teachers. The assistant teachers served as advisors to students with autism, parents, and head teachers. The assistant teachers also identified areas of students needs and suggested activities to improve teaching and management in the classrooms.

The school’s classrooms appeared neat and well decorated. Students’ desks were arranged in one large rectangle, approximately 30 to 32 tables. The teachers often decided that the boys and the girls could sit at the table together. On the shelves, each child had a paper box covered with colorful paper for individual storage. On the wall, boards showed students’ artwork. There were also covered by attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors introduced class members. Normally, most of classrooms did not show a lot of material for teaching students. Many materials were made by the teachers. The teachers kept all education aids in the teachers’ offices and used them based on the students’ level of ability and needs.
School 4

This school was located in the northwest sector of Khon Kaen City, about 445 kilometers northwest of Bangkok. It was a public school under the Commission on Higher Education. Situated in a very attractive park, the school covered approximately 30 acres. The school was the largest education and learning center in Northwest Thailand, and was recognized as the leader of new innovations in teaching, learning and research in the region. It was quite a large school, capable of serving about 2,000 students from prekindergarten to high school level. There were 36 students with autism between kindergarten and high school level in this school. The school provided full-time inclusive classroom program for students with autism. In the classroom, students with autism received the same education and activities as their peers for the entire school day.

The school had a beautifully wooded, landscaped campus on large hills with many large trees. Kanlapaphlvk, a perennial plant, and was the official flower of this school. It was called “Wishing Tree or Pink Shower.” It had pink flowers that bloomed in an orderly way. The slogan of the school displayed in front of the building was: “Merit, Intelligent, Health, Strong Discipline, Democracy, and Knowledge Bring to Sociality.” Gray is the official color of this school. Students were required to wear two uniforms, one for regular school days (a white, collared shirt and gray skirt for girls, and gray short pants for boys), and a second uniform for special physical exercise day (gray t-shirts and black trousers for both boys and girls). Students were also required wear neat shoes, like tennis shoes and not sandals or flip-flops, to classes.

This school was divided into two locations on two separate campuses. The first location was under the Education Department, and included one building for kindergarten and elementary
students, one cafeteria and one playground. The second location included two buildings for elementary students and a large sport ground.

On the east side of the first location, next to the building for kindergarten, there was a small building, the Research and Development Center of Autistic Inclusive Education. The center served three functions: educating student teachers, conducting professional research, and providing childcare services while parents went to work or school. The school had served mainly as a center for teacher education. Special education students had the option of having transportation provided to them.

The big playground in front of the school included many flowers, plants and trees. The natural playground was safe and clean and was designed for children to play in freely. Playground equipment, such as jungle gyms, slides, and swings, was provided. In the morning, before class began, a teacher often came to meet the students who gathered at the front of the school. This playground provided a place for the all students’ meetings, prayers, respecting the Thai national flag, and exercising for 20 minutes every morning. The school usually played a cassette tape of soft music during school dismissal. Parents were required to drop off and pick up their children at the front door of the school.

The principal who was the participant at this site had worked in this school for 1 year, and 2 teachers had worked in the school for almost 5 years each. The other 2 teachers had worked there for more than 2 years each. The principal and 2 teachers held master’s degrees in education and special education. The other 2 teachers held bachelor’s degrees in home economics and the teaching education.

Within each classroom, groups of rectangular wooden tables were provided for students. Sometimes the tables were joined into two long parallel tables; other times they were set up in a
U-shape. In this school, the classroom had both boys and girls. The teachers often decided that the boys and the girls would sit at the table together. In each classroom, low steel shelves and labeled rattan shelves were provided for students’ use. Similar toys and materials were stored together in white, transparent plastic containers. Many materials were made by the teachers.

School 5

This school was located in a suburb of Bangkok, close to the main street. The school was under the Office of the Private Education Commission. It was a large school, capable of holding approximately 60 young children (ages 3 to 6 years). Because it was a private school, most of the pupils in this school came from wealthy families.

The school was a U-shaped, three-story building. The first floor housed the principal’s office, administrative office, and the multipurpose room. The multipurpose room, which was the biggest room, contained five areas for individual teaching, including social-emotional, communication, sensory, cognitive, and motor development centers. The school provided a speech therapist to help students gain a better understanding of academic skills and develop and strengthen student’s skills. The special teacher used this multipurpose room to provide special training for teachers, parents, and interested people. The special teacher also served as an adviser to students with autism, parents, and teachers. This room had many teaching aids or tools, which appeared neat and well-organized. The room was also used for parent orientations, conferences, and a variety of other school activities.

The second and third stories were divided into five classrooms, used for teaching classes. The school contained six classrooms and each classroom had 10 students, who were classified by age. The school provided education for students with different developmental needs. Special education program was for students with special learning needs such as a physical or emotional
disabilities, speech and learning disabilities, and visual impairments. There were 36 students with autism in this school. The school provided full-time inclusive classroom programs for students with autism. In the classroom, students with autism received the same education and activities as their peers for the entire school day. Each classroom had 2 teachers and an assistant. The slogan of the school displayed in front of the buildings was “Giving Opportunities for the Education and Ready to Develop.” The school required students to wear a uniform. Both boys and girls had to wear pink t-shirts, navy blue short pants, and tennis shoes. Every morning, the school provided soft music for getting students together for respecting the Thai national flag and exercising for 20 minutes.

The classrooms were suitably supplied with developmentally appropriate materials. Learning centers were provided in all the classrooms, such as a blocks center, home center, writing center, visual center, books center, and computer center. The centers appeared well organized and useful. The students had considerable choice in selecting learning centers for their activities. Students’ desks were arranged in one large circle. On the shelves, each child had a paper box covered with colorful paper for individual storage. On the wall, boards were displaying students’ artwork. The walls were also covered with attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors were used to introduce class members. Lunch was provided in the classroom. Every afternoon, students took a nap in their classroom for about 2 hours.

The principal and three teachers, who were the participants at this site, had worked in the school for almost 10 years each. Another teacher had worked there for more than 2 years. The principal and 1 teacher held their master’s degrees in higher education and special education. The other 3 teachers held bachelor’s degrees in the field of education. The school sent teachers to
have training at least three to four times per semester. The school provided the individualized education program for every student with autism. The IEPs were based on student’s abilities and developmental levels.

_School 6_

This school was located in Chonburi province, about 180 kilometers from Bangkok. It was on a side road, about 300 meters away from the main road, and surrounded by a village community. The school was under the Office of the Private Education Commission. It was a large school, capable of enrolling about 80 young children (ages 3 to 6 years). Because it was a private school, most of the pupils in this school came from wealthy families. The school provided education for students with many kinds of needs, such learning disabilities, mental or behavioral impairments, autism, and gifted students. There were 16 students with autism in this school.

The school cooperated with the Child Psychiatric Hospital to help students with autism before they were enrolled in the school. This meant that these students with autism had very high functioning levels and did not interfere with the learning of other students. Therefore, the school did not have separate classrooms for students with autism. These students with autism were fully included in the general classrooms. The process had to be approved by their parents in cooperation with the specialists. In the classroom, students with autism received the same educations and activities as their peers for the entire school day. The parents of these students with autism agreed to allow their children to participate in the programs. There was also a psychologist, a speech therapist, a sign language/communication specialist, an occupational therapist, and a physical therapist who routinely worked with students with autism to help them gain a better understanding of academic skills and to develop and strengthen those skills.
The school had a beautiful view full of plants and trees. There was a large playground in front of this school where jungle gyms, slides, and swings were provided. Every day, parents were required to drop off and pick up their children at the front door of the school. The school also provided soft music for getting students together each morning, respecting the Thai national flag and exercising for 20 minutes. The school required students to wear uniforms. Boys and girls wore white t-shirts, navy short pants, and tennis shoes. The slogan of the school displayed in front of the building was “Excellence in Education and Being A Smart Person in the Society.”

The principal who was the participant at this site had worked in the school for almost five years. He was about 50 years old and held a master’s degree in education and special education. The teachers had been working at the school for 3 to 5 years each; one of them was male. He held a bachelor’s degree in physical development and a certificate in early childhood education. The other two teachers had high school diplomas and certificates in early childhood education. One of the teachers, who was well known for teaching music to young children, voluntarily came once a week to teach the students with disabilities.

The rooms for students with autism were located on the first floor of the building. Each classroom was taught and cared for by one teacher and one assistant. The teachers often decided the boys and the girls would sit together at the tables. In general, the school’s classrooms appeared well organized and useful. There were various sections throughout the rooms that enabled the students to make choices about areas where they would most like to interact. Such areas included a blocks center, a home center, a writing center, a visual center, a books center, and a computer center. These centers were built on an open concept to allow easy access for various types of equipment that might be needed by the students with autism. In the corner of the classroom, there were audiovisual materials (television, computers, radio, and tape cases).
systematically designed for free time activities. Students’ desks were arranged in one large circle. On the shelves, each child had a paper box covered with colorful paper for individual storage. On the wall, boards were used to show with students’ artworks. There also were attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors introduce class members.

Demographics

The participants in this study included 6 principals, and 24 teachers of six schools. These participants consisted of 2 female and 4 male principals, 19 female, and 5 male teachers. Fifty percent of the interviewees held master’s degrees, while 3% held doctoral degrees. Thirty percent of interviewees had major degrees in teaching education. The number of years teaching in a primary or elementary setting was split between 0 and 5 years (27%) and more than 10 years (33%). Seventy-three percent of the interviewees already had knowledge about students with autism before their teaching, while 27% did not have knowledge about teaching students with autism. The frequency of the special trainings or conferences was split between one to two times per semester (27%) and more than four times per semester (13%). Table 1 presents the characteristics of interview respondents.

The study included six schools under the Office of the Basic Education Commission, Ministry of Education in Thailand. Schools 1 and 2 were under the Office of the Basic Education Commission. Schools 3 and 4 were under the Commission on Higher Education. Schools 5 and 6 were under the Office of the Private Education Commission. The criteria for selection of a school as a site included; the school must have at least a three-year curriculum of teaching students with autism, and the school must have students with autism in an inclusive classroom. The total number of students was split between fewer than 100 students (33%) and more than 3,001
students (17%). Seventeen percent of the schools had between one to three students with autism and between 71-80 students with autism (17%). The classroom size was split between 11 to 20 students (33.3%) and more than 50 students (17%). The total number of teachers in a school was split between fewer than 50 teachers (33%) and more than 200 teachers (33%).
Table 1

*Characteristics of Interviews (N = 30)*

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<tr>
<td>Teaching education</td>
<td>9</td>
<td>30.0</td>
</tr>
<tr>
<td>Home economics education</td>
<td>3</td>
<td>10.0</td>
</tr>
<tr>
<td>Special education</td>
<td>5</td>
<td>16.7</td>
</tr>
<tr>
<td>Psychology</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>Higher education</td>
<td>3</td>
<td>10.0</td>
</tr>
<tr>
<td>Physical education</td>
<td>3</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Years in teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 5 years</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>12</td>
<td>40.0</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>10</td>
<td>33.3</td>
</tr>
<tr>
<td><strong>Knowledge of autism before teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>73.3</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td><strong>Special Training / conferences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 – 2 times / semester</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td>3 – 4 times / semester</td>
<td>18</td>
<td>60.0</td>
</tr>
<tr>
<td>More than 4 times / semester</td>
<td>4</td>
<td>13.3</td>
</tr>
</tbody>
</table>
Table 2

Characteristics of School (N = 6)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school under</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Office of the Basic Education Commission</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>The Commission on Higher Education</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>The Office of the Private Education Commission</td>
<td>2</td>
<td>33.4</td>
</tr>
<tr>
<td>Total number of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 100</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>100 - 500</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>501 – 1,000</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>1,001 – 1,500</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>1,501 – 2,000</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>2,001 – 2,500</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2,501 – 3,000</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>More than 3,001</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>Number of students with autism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 10</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>11 - 20</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>21 - 30</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>31 - 40</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>41 - 50</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>More than 50</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>Class size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 10</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>10 – 20</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>21 – 30</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>31 – 40</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>More than 40</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total number of teachers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 50</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>51 – 100</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>101 - 200</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>More than 200</td>
<td>2</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Findings from the Interviews

The data from this study involved a descriptive research, consisting of semi-structured interviews, document collection (the curriculum and lesson plans), and nonparticipant observations. The information was coded and divided into response categories. After collecting
data, I utilized NVivo7® qualitative data analysis management software program (Qualitative Solutions and Research PTY Ltd., Melbourne, Victoria, Australia, http://www.qsrinternational.com) to facilitate the analysis of the interview data, the contents of strategies for teaching students with autism, the contents and objectives of the school curricula, and the lesson plans. Data was analyzed through a coding strategy based on suggestions provided by Miles and Huberman, (1994). Text units measured responses. A text unit is considered the smallest portion of a document that NVivo7 can code and analyze. A text unit can be a single word, or a phrase, sentence, paragraph, or entire document (Qualitative Solutions and Research PTY Ltd., 2004). Analysis included reports listing text units based on coded entries, and tables showing frequencies of text units. Sample teacher responses were also provided.

Research Question 1: What contributes to appropriate instructional curricula that promote teaching of students with autism in inclusive classrooms in Thailand?

The answers to this question and the extended questions revealed the participants’ understandings of the common features of effective curricula for teaching students with autism in inclusive classrooms. Analysis of the interview data revealed 10 features of curricula by principals and teachers. Table 3 presents participants’ responses, which provided answers to Research Question 1.

Responses from principals and teachers were coded into 10 categories that emerged as the researcher coded the text units. These categories were entitled: providing opportunities, health care, specialized curriculum, recognizing students’ individual needs and abilities, guidelines of teaching, teacher training and supervision, transition planning, parent involvement, tools and materials in the classroom environment, and students’ class assignment.
“Providing opportunities” encompassed a host of topics: students received free appropriate public education, classrooms were integrating students with special needs with their peers, students were encouraged to feel free to learn, and children with autism received understanding, respective, and value others for their differences from their peers.

“Health care” included students with autism must have on file a statement, from physicians, stating that the children were in good health and could participate in schools, the curriculum for teaching students with autism was appropriate for their abilities and developmental levels, students were in good health and in safe and pleasurable programs, programs were developed through collaboration between educational and medical professionals, and processes were approved by their parents in cooperation with the specialists.

“Specialized curriculum” meant the embodied the schools provided the individualized education program (IEP) for every student with autism, the IEPs were based on students’ abilities and developmental levels, and curricula of teaching students with autism were individualized.

“Recognizing students’ individual needs and abilities” included students’ education, programs were based on the unique needs of the students, and students with special needs learned what was appropriate based on their needs and abilities.

“Teaching guidelines” was broad and general in nature and contained ideas such as providing structure with clear guidelines regarding expectations for appropriate behavior, providing strategies to be used for teaching students with autism, and providing guidance and direction for children’s learning, supporting academic growth, preparing the environment and selecting learning materials to assure the good use of their, and children’s time.
“Teacher training and supervision” included teacher training to increase skills and techniques or teaching children, enhanced the quality of instruction, and information provided about implementing developmentally appropriate practices in the classroom, understanding child development, and instructional teaching.

“Transition planning” was composed of direct statements in the curriculum that focused on developing skills students could use in their current and future lives in school at home, and in the community.

“Parent involvement” as a crucial component in making families better understand the teaching program.

“Tools and materials in the classroom environment” encompassed providing tools, such as written or picture schedules, and selecting activities that match children’s needs.

“Students’ class assignment” included the ratio between teacher and students in the classroom and varying teaching format (large group, small group, and one-on-one). Table 3 summarizes the responses to the open-ended questions by category.
Table 3

Distribution of Text Units for Question 1

<table>
<thead>
<tr>
<th>Contents</th>
<th>n text units</th>
<th>% of total units retrieved</th>
<th>% principals and teachers responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Providing opportunities</td>
<td>180</td>
<td>54</td>
<td>100</td>
</tr>
<tr>
<td>2. Health care</td>
<td>123</td>
<td>30</td>
<td>98</td>
</tr>
<tr>
<td>3. Specialized curriculum</td>
<td>80</td>
<td>28</td>
<td>96</td>
</tr>
<tr>
<td>4. Recognizing students’ individual needs and abilities</td>
<td>98</td>
<td>32</td>
<td>83</td>
</tr>
<tr>
<td>5. Guidelines of teaching</td>
<td>82</td>
<td>31</td>
<td>79</td>
</tr>
<tr>
<td>6. Teacher training and supervision</td>
<td>102</td>
<td>34</td>
<td>75</td>
</tr>
<tr>
<td>7. Transition planning</td>
<td>76</td>
<td>31</td>
<td>73</td>
</tr>
<tr>
<td>8. Parent involvement</td>
<td>106</td>
<td>41</td>
<td>70</td>
</tr>
<tr>
<td>9. Tools/materials in classrooms</td>
<td>67</td>
<td>26</td>
<td>69</td>
</tr>
<tr>
<td>10. Students’ class assignment</td>
<td>76</td>
<td>20</td>
<td>65</td>
</tr>
</tbody>
</table>

Note. N = 30. Number of text units does not equal number of participants. Some participants provided more than one response in a particular category. Percentage of principals and teachers responses differs from category to category.

Providing Opportunities

In 1948, the Universal Declaration of Human Rights (UNESCO, 2005, p. 12) advocated inclusive education and education for all children in Article 26:

Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit... Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among... racial or religious groups..."
On December 3, 2004, the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) was signed into law by President George W. Bush (York, 2005). This act states as its purpose:

The Individuals with Disabilities Education Improvement Act of 2004 will help children learn better by promoting accountability for results, enhancing parent involvement, using proven practices and materials, providing more flexibility, and reducing paperwork burdens for teacher, states and local school districts.

The Thai Ministry of Education (2002) mentioned that the primary goals of “Education for special needs” were to provide for equal educational opportunities to all children with disabilities, and mandated that a child cannot be denied education on grounds of disability.

The first principal stated,

Our school curriculum always keeps the Standard on the Ministry of Education Policy or IDEIA. This means all children with disabilities have the opportunity to receive a free appropriate public education, just like other children.

One teacher said, "We need to provide opportunities for all kids to have success every day of their lives."

Another principal stated,

One simple way to help prepare students would be to provide opportunities for all students to improve their self-esteem, but it is not only for students with disabilities. We need to provide opportunities daily as part of the curriculum for students to self-evaluate to know themselves better.

One teacher stated, “The important thing that we have to realize is to give children opportunities to interact with responsive adults and peers, to learn and encourage them to feel free to learn.” Yet another teacher said, “People think children with autism are difficult. It does not mean they cannot learn. We have to give them a chance.” The sixth principal said, “I have a strong opinion that children with special needs should have a good opportunity or a chance to study just as much as other students.” The third teacher stated,
We try to explain to all of our kids that we are all the same, and I believed that they understand. I want children with autism received understanding, different perspectives, and value others for their peers.

The fifth principal said,

In our school, we have children came to schools with varying families. Some of them come from wealthy families and some of them come poorly families, but. Thus, it is a good for children will learn how people are different. Moreover, we have many children with disabilities. However, children have not ideas and feelings about their identity, about other people, and about human diversity. Education will likely miss the mark or even reinforce misconceptions, unless teachers have a good idea what their students with disabilities may be thinking and feeling. For example, teachers can decide to help students learn about relationships between children with disabilities and their peers -- explaining students how we can help friends with disabilities.

This is a good method for promoting understanding of physical differences, but it may backfire unless the teacher is able to help children uncover and express their ideas and feelings. Many young children think that sitting in a wheel chair will make their legs "not work" and therefore will be afraid to participate in the activity. The teacher needs to be aware that this is how a child may think and provide for discussion that expands the child’s understanding while accepting and helping her to articulate her feelings.

The teacher said, “Children with autism require safe and interesting environments and opportunities, the same as other students need.” Results indicated that “Opportunities” was the highest response group, with 180 text units or 54% of the responses. All of the (100%) interviewees indicated that curriculum must provide opportunities for students with autism. With the majority of text units (180) in the study coming from this group, the curriculum for teaching with autism should be based on IDEIA. Fifty-nine percent of the principals and teachers stated that students with autism should have the opportunity to receive a free appropriate public education, with 46% noting students should have good opportunities to study just as much as other students. Forty-eight percent of the teachers said children with autism should receive and understand, perspectives, and value others for their differences. Table 4 provides sample principals’ and teachers’ responses for the “Opportunities” category.
Table 4

Sample of Responses for Interview Question 1, Category Providing Opportunities

<table>
<thead>
<tr>
<th>Providing opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Our school curriculum always keeps the Standard on the Ministry of education Policy or IDEIA. This means all children with disabilities have the opportunity to receive a free appropriate public education, just like other children.</td>
</tr>
<tr>
<td>• The important thing that we have to realize is to give children opportunities to interact with responsive adults and peers, to learn and encourage them to feel free to learn.</td>
</tr>
<tr>
<td>• Currently, the programs for teaching students with autism in Thailand are integrated, in which children with autism can receive instruction that match with their abilities.</td>
</tr>
<tr>
<td>• Children with autism will receive understanding, different perspectives, and value others for their differences from their peers.</td>
</tr>
<tr>
<td>• I have a strong opinion that children with special needs should have a good opportunity or a chance to study just as much as other students.</td>
</tr>
<tr>
<td>• The school always keeps the school rules. I mean we attend to give opportunities to children.</td>
</tr>
<tr>
<td>• We try to explain to all of our kids. They are all the same.</td>
</tr>
<tr>
<td>• Children like helping each other; they especially love to help children with autism.</td>
</tr>
<tr>
<td>• The curriculum for teaching students with autism should be appropriate for their abilities and developmental level.</td>
</tr>
<tr>
<td>• Before we put students with autism in regular classrooms, we explain and talk to teachers and peers.</td>
</tr>
<tr>
<td>• It is important for children with autism to have friendships and learn about socialization.</td>
</tr>
<tr>
<td>• I encourage children with disabilities to participate with peers.</td>
</tr>
</tbody>
</table>

*(table continues)*
Sample of participant responses

- I have one child who has autism. His parents told me that he was rejected from his school, and she hopes that her son can enroll in our school. After we worked together between school, home and the psychologist, he was fine.

- I would like to see all Thai children receive basic education.

- People think children with autism are difficult. It does not mean they cannot learn. We have to give them a chance.

- The school provides education for students with many kinds of needs, such as learning disabilities, mental or behavioral impairment, autism, and gifted students.

- Our school does not have separate classroom for students with autism. These students with autism are fully included with students of the regular program.

- Teachers provide many opportunities for students with special needs to work in small and flexible groups that they informally created.

The program encourages children to make choices based on their interests.

Note. Comments are direct quotes from principals’ and teachers’ interviews.

Health Care

Health care is one of curriculum components for teaching students with autism. Autism is one type of disability (Winerman, 2006). Autism symptoms can be present in a variety of combinations and may accompany other disabilities. Thus, it is important that every student with autism must have a statement on file from a physician, stating that the child is in good health and can participate in schools. Teaching programs for students with autism must be individualized and based on the unique needs and abilities of each student. Results indicated that 123 text units (30% of the text units) composed the “Health Care” category. Ninety-eight percent of the principals and teachers said “Health Care” was important in providing the curricula for teaching students with autism. Fifty-two percent of the text units agreed that every student with autism must have a statement on file from a physician, stating that the child is in good health and can
participate in schools, while 48% of the text units approving the curriculum for teaching students with autism through a collaborative relationship among the school, the hospital and the parents.

The third principal stated,

To enroll a child in school, parents must complete an application for enrollment, provide a current copy of the child’s immunizations record. In addition, it should be provided a statement from a physician or health clinic that the child is healthy and can participate in childcare activities.

In Thailand, the Child Psychiatric Hospital had attempted to integrate elementary high-functioning students with autism into general education classrooms in both public and private schools. However, their attempts were unsuccessful. Most of the students were sent back to the hospital because the teachers were unable to deal with the students’ challenging behaviors. In addition, the students’ developments had regressed in both academic performance and social behaviors. Six principals indicated that it was important to provide health care to children with autism before they enroll in the program. One teacher noted in the report book to children’s parents that it was important that parents should report the learning results of children with autism and consult with a doctor. Moreover, parents, psychologists and educators can work together to decide and provide a quality curriculum for teaching students with autism. The principals stated, “The school has cooperated with the Child Psychiatric Hospital to help students with autism before they enroll in school.” Another principal stated, “We make sure that student is in good health and in a safe and pleasurable setting in our program.”

The sixth principal said,

Our program is developed through collaboration between educational and medical professionals. We provide a psychologist, a speech therapist, a sign language communication specialist, an occupational therapist, and a physical therapist for helping students with autism to gain a better understanding of academic skills and develop and strengthen those skills. The process must be approved by their parents in cooperation with the specialists.
The curriculum of children with autism provided activities introducing concepts to encourage healthy and safety practices. Familiarity with good health, safety, and nutritional practices establishes healthy habits for the entire life span. Appropriate and meaningful experiences help children to understand more about themselves and their relationships with others. Each child needs to learn about and appreciate his or her own body functions and needs. This awareness will contribute to a sense of self and to good mental health.

Physical development activities support children’s physiological needs for activity, sensory, stimulation, rest, and nourishment. Curricula for teaching students with autism should provide a variety of experiences that help children develop physically. Examples of physical development activities include throwing an object, jumping with ropes, and playing a game with movement. Table 5 provides sample principals’ and teachers’ responses for “Health Care.”

Table 5

Sample of Responses for Interview Question 1, Category Health Care

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health care</strong></td>
</tr>
<tr>
<td>• Every student with autism who participates in our school must have on file a statement, from a physician, stating that the child is in good health and can participate in schools.</td>
</tr>
<tr>
<td>• The program makes a good quality of life for persons with disabilities and improves on their ability to depend upon themselves for health protection and quality of life.</td>
</tr>
<tr>
<td>• The curriculum for teaching students with autism should be appropriate for their abilities and developmental level.</td>
</tr>
<tr>
<td>• We make sure that student is in good health and in a safe and pleasurable setting.</td>
</tr>
<tr>
<td>• It is important to provide personal care to children before they enroll in our program.</td>
</tr>
<tr>
<td>• Our program is developed through collaboration between educational and medical professionals.</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 5 (continued.)

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• We provide a speech therapist to our schools to help students with autism communicate.</td>
</tr>
<tr>
<td>• We report the results to parents and want them to consult with a doctor.</td>
</tr>
<tr>
<td>• We provide a psychologist, a speech therapist, a sign language/communication specialist, an occupational therapist, and a physical therapist for helping students with autism to gain a better understanding of academic skills and develop and strengthen those skills.</td>
</tr>
<tr>
<td>• I think it is important that psychologists and educators can work together to decide and provide a quality curriculum for teaching students with autism.</td>
</tr>
<tr>
<td>• The school has cooperated with the Child Psychiatric Hospital to help students with autism before they enroll in school. It means that these students with autism are at a very high functioning level that should not interfere with the learning for other students.</td>
</tr>
<tr>
<td>• The process must be approved by their parents in cooperation with the specialists.</td>
</tr>
</tbody>
</table>

*Note. Comments are direct quotes from principals’ and teachers’ interviews.*

**Specialized Curriculum**

In Thailand, the Ministry of Education does not have a specific curriculum for teaching students with autism. The schools provide a variety of teaching strategies and curricula for children with autism in different ways. These teaching strategies and curricula depend on behaviors of children, teachers, parents, and environments. Many schools create programs for students with autism that are developmentally appropriate and adopted from the foundations of formal education. The primary goals of educating children with autism are to manage the problem behaviors in a regular classroom, to improve their learning skills, and to help them to function in normal lifestyles (Ministry of Education, 2002). The programs for teaching preschool children with autism in Thailand are typically located in public schools and private facilities. Some programs are segregated, serving only children with autism, while other programs serve children with autism and children with other disabilities. Other programs are integrated, in which
children with autism receive instruction in the same classroom as children without disabilities. The curricula provide additional information about appropriate educational strategies and curricula including environmental structures, communication and social skill development, and behavioral management. The principal indicated,

Because no one curriculum is appropriate for all children, we should provide specific curriculum for each student with autism. Curriculum teaching students with autism must be individualized. Also, it should base on the student’s individual characteristics, not on the label of autism.

Another principal said,

Currently, the programs for teaching students with autism in Thailand are integrated, in which children with autism can receive instruction in the same classroom as children without special needs. However, the school provides the teaching curriculum for students with autism from the individualized education program (IEP) for every student with autism that based on student’s abilities and developmental levels.

One teacher said,

We know that it is not easy to put children with autism in regular classroom. Students with autism are different in learning styles. So, I get involved with other teachers and parents to help me decide the specific teaching strategies and specific curriculum for each student with autism.

Some children with autism functioning at high levels and able to use language and cognitive abilities to explain what they are thinking. Children with autism who cannot have functional verbal skills need to acquire an effective communication mode. In these cases children can communicate with a picture exchange communication system (PECS) to help them acquire these skills (Schwartz, Billingsley, & McBride, 1996). PECS teaches children to communicate with pictures and symbols to develop functional communication (Heflin & Simpson, 1998). The fourth principal stated,

Children with autism come to schools with varying abilities and learning styles. Some of them have very high potential abilities in using talents in math or drawing pictures. It is challenge for teacher to learn how to support their children. Education will help children with autism explore their abilities, unless teachers have good ideas what their young students may use their abilities to improve their skills. The teacher needs to be aware that
this is how a child think and provide for discussion that expands the child’s understanding while accepting and helping her to articulate her abilities.

The teacher said, “The educational program for an individual with autism should be based on the unique needs of the student. Each student needs to learn based on his/her needs and abilities.”

Moreover, another teacher said,

Students’ development has regressed in both academic performance and social behaviors. The curriculum focuses on developing skills that will be of use in the student’s current and future life in school, home, and community.

One principal mentioned that many parents send their children to our school in the hope of improving their learning skills. The curriculum allows children to engage in activities that help them develop essential knowledge and skills for future success. The school must prepare students with autism to learn academic skills such as reading writing, counting, and adding.

The fifth principal stated,

The school cooperated with the Child Psychiatric Hospital to help students with autism before they were enrolled in the school. These students with autism had very high functioning levels and did not interfere with the learning of other students. The school did not have separate classrooms for students with autism. These students with autism were fully included in the general classrooms. The process had to be approved by their parents in cooperation with the specialists. In the classroom, students with autism received the same educations and activities as their peers for the entire school day. The parents of these students with autism agreed to allow their children to participate in the programs. There was also a psychologist, a speech therapist, a sign language/ communication specialist, an occupational therapist, and a physical therapist who routinely worked with students with autism to help them gain a better understanding of academic skills and to develop and strengthen those skills.

Students with autism often struggle to express what they need or what they do not understand. Forming exact questions can be frustrating and difficult, causing some students with autism to become agitated. Teachers can address this by providing an organized classroom with specific areas that the student can identify through verbal or
visual clues. Pictures and words should be used all around the classroom to help identify areas such as where coats and lunches are stored, pencils are sharpened, and books are put on the shelf. Designating a time-out area where students can go for quiet, when over-stimulation occurs, is also beneficial. (Hecimovic, Powell, & Christenoen, 1999).

“Specialized Curriculum” was the third highest response rate, with 80 text units representing 28% of the total text units and 96% of the principals and teachers commenting. The most prevalent comment of the principals and teachers stated that the schools provide specific curriculum for each student with autism. They believed no one curriculum is appropriate for all students with autism and curriculum of teaching students with autism must be individualized. The individualized education program (IEP) is an important guideline for every student with autism. Table 6 provides sample principals’ and teachers’ responses for the specialized curriculum category.
Table 6

Sample of Responses for Interview Question 1, Category Specialized Curriculum

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized curriculum</td>
</tr>
<tr>
<td>• Curriculum teaching students with autism must be individualized.</td>
</tr>
<tr>
<td>• Because no one curriculum is appropriate for all children, we should provide specific curriculum for each student with autism.</td>
</tr>
<tr>
<td>• Students with autism need special curriculum that provides instruction for them to learn.</td>
</tr>
<tr>
<td>• The student’s IEP is an important guideline to help students with disabilities learn.</td>
</tr>
<tr>
<td>• Our school has a special program for students with autism, developed by collaboration between educational and medical professionals.</td>
</tr>
<tr>
<td>• The school provides the teaching curriculum for students with autism from the individualized education program (IEP) for every student with autism.</td>
</tr>
<tr>
<td>• The student’s IEP is based on student’s abilities and developmental levels.</td>
</tr>
<tr>
<td>• The curriculum based on the student’s individual characteristics, not on the label of autism.</td>
</tr>
<tr>
<td>• The school must prepare students with autism to learn academic skills such as reading writing, counting, and adding.</td>
</tr>
</tbody>
</table>

Note. Comments are direct quotes from principals’ and teachers’ interviews.

Recognizing Students’ Individual Needs and Abilities

Despite the fact that teaching children with autism is difficult, autism does not just affect the ability to learn and understand (Simpson & Zionts, 2000). Recently, developmental psychologists and educators became interested in the development of programs or interventions for teaching children with autism (Edelson, 2006). Students with autism need specialized structures to learn because of their unique learning needs and different developmental abilities (Willis, 2006). The teacher said, “The curriculum for teaching students with autism should be appropriate for their abilities and developmental level.” The principal stated, “The educational program for an individual
with autism should be based on the unique needs of the student.” Another teacher indicated, “Each student needs to learn based on his/her needs and abilities.” Another principal mentioned, “The school provided the individualized education program for every student with autism. The IEPs were based on student’s abilities and developmental levels.”

The teacher said,

The curriculum allows children to engage in activities that help them develop essential knowledge and skills for future success. The classroom allows for children to choose based on their interests. The small playground was safe and clean. It was an area designed for children to play freely. Students need time to explore, and I felt they did a great job of working into the scheduled free time at the end of the day.

The fourth principal stated,

The school provided education for students with different developmental needs. Special education program was for students with special learning needs such as a physical or emotional disabilities, speech and learning disabilities, and visual impairments.

The fifth principal stated,

Eighty-three percent of the principals and teachers provided 98 text units, or 32% of the total text units, in the category entitled “students’ individual needs and abilities.” Eighty-three percent of the principals and teachers stated that the curriculum for teaching students with autism should be based on the student’s individual characteristics, not on the label of autism. In addition, the curriculum should be appropriate for student’s abilities and developmental level.

Table 7 provides sample principals’ and teachers’ responses for the students’ individual needs and abilities category.
Recognizing students’ individual needs and abilities

- I chose to make these routines of the entire learning experience for the children and to simplify their day.
- The curriculum should be based on the student’s individual characteristics, not on the label of autism.
- Children with autism have unique learning needs and abilities, and different developmental levels.
- The curriculum for teaching students with autism should be appropriate for their abilities and developmental level.
- The student’s IEP is based on student’s abilities and developmental levels.
- The educational program for an individual with autism should be based on the unique needs of the student.
- Each student needs to learn based on his/her needs and abilities.

Note. Comments are direct quotes from principals’ and teachers’ interviews.

Teaching Guidelines

“Effective teachers actively instruct students by demonstrating skills, explaining concepts and assignments, conducting participatory activities, and acquiring knowledge of information that contribute to students’ learning” (Samahito, 2001). After teachers received teacher training, participants gained an understanding of how children with autism improve their learning skills. Teachers applied the knowledge to their classrooms. Six respondents indicated that teaching strategies and ideas for activities applied to school level in Thailand. Four respondents including three teachers who implemented teaching strategies in their classes and one principal, indicated that teaching guidelines help educators provide structure in the environment, with clear
guidelines organize classrooms to achieve learning areas for appropriate and inappropriate behavior. Two teachers indicated that after they used teaching guidelines to teach their students with autism, their students with autism improved communication skills.

Another principal stated that since their teachers came from different backgrounds and had different learning styles, they determined the student’s knowledge base by asking teachers to contribute what they knew. One teacher gave an example of the activity that was applied successfully. First, teachers experienced the teaching activities provided on every Monday where they were asked to draw a picture of what they learned and to write a sentence describing the picture. Then, the teacher bound the children’s work and had the children with autism read the sentences every day. The teacher revealed that the children with autism increased their communication and reading skills. The curriculum for teaching students with autism indicated that this activity is indicated in the curriculum, connects to children ideas discussing what they are drawing and reading books. The findings is consistent with the Wernicke’s area that located in the parietal lobe is used for understanding language. Children’s language and literacy skills develop as their vocabulary increases.

As children with autism are increasingly placed into general classrooms, the needs for qualified teachers are necessary and growing. Two early childhood professionals indicated that effective teaching was structured and focused on the learning needs of each student in the classrooms. This premise incorporates information about young children’s background, capability, and interest. The first professionals suggested that the teaching guidelines should guide the teachers teaching strategies for children with learning disabilities. Another professional suggested, “teaching guidelines should provide information about teaching techniques for children with different learning styles.” The teacher stated,
I had children on many ability levels and due to the high number of special education students in my classroom, I must keep a schedule of events and plan every minute of the day, while another teacher indicated that she provides structure in the environment, with clear guidelines regarding expectations for appropriate and inappropriate behavior.

The principals stated that the simple way for using teaching guidelines and purposes for a schedule can be to provide routine and structure for children so that they know what to expect each day.

The third teacher said,

Teachers’ roles should provide the guidance and direction to children’s learning, supporting academic growth and preparing the environment and selecting learning materials to assure the good use of their and children’s time.

One principal indicated, “Each student with autism has a different learning style. Teachers should understand styles of learning and know teaching techniques to help students develop and learn in a full capacity.”

Another teacher stated,

It is important for the teacher to provide specific goals while responding to the general learning needs of the children. Children with autism need experiences to help them develop learning skills in school. For example, I provide a variety of communication activities, such as pictures exchange system (PES), children’s books, computers (CAI), television, radio, and tape cases, and toys (puzzles, Legos [sic], balls, and puppets) at the back of the classroom.

Findings revealed that “Teaching Guidelines” was the seventh highest response rate, with 106 text units or 31% of the responses. Seventy-nine percent of the principals and teachers said it is important for the teacher to provide the guidance and direction for children’s learning and to prepare the environment and select learning materials for teaching students with autism. Also, teaching guidelines should provide specific goals while responding to the general learning needs of the children. Ninety percent of the text units support that the guidelines of teaching should be based on the student’s abilities and developmental levels; therefore, teachers should understand learning styles and know teaching techniques to help their students develop and learn in a full capacity. In addition, it is important for the teacher to provide specific goals while responding to
the general learning needs of the children. Table 8 provides sample principals’ and teachers’ responses for the teaching guidelines category.

Table 8

*Sample of Responses for Interview Question 1, Category Teaching Guidelines*

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teaching guidelines</strong></td>
</tr>
<tr>
<td>• I had children on many ability levels and due to the high number of special education students in my classroom, I must keep a schedule of events and plan every minute of the day.</td>
</tr>
<tr>
<td>• Provide structure in the environment, with clear guidelines regarding expectations for appropriate and inappropriate behavior.</td>
</tr>
<tr>
<td>• It is a challenge for teachers to provide what strategies we need to use for teaching students with autism. Students with autism need structure to learn because they are different from other children.</td>
</tr>
<tr>
<td>• A purpose for a schedule can be to provide routine and structure for children so that they know what to expect each day.</td>
</tr>
<tr>
<td>• Every child with an IEP has many goals and this was the best way to work on their skills.</td>
</tr>
<tr>
<td>• Teachers’ roles should provide the guidance and direction to children’s learning, supporting academic growth and preparing the environment and selecting learning materials to assure the good use of their and children’s time.</td>
</tr>
<tr>
<td>• Each student with autism has a different learning style. Teachers should understand styles of learning and know teaching techniques to help students develop and learn in a full capacity.</td>
</tr>
<tr>
<td>• It is important for the teacher to provide specific goals while responding to the general learning needs of the children.</td>
</tr>
<tr>
<td>• Children with autism need experiences to help them develop learning skills in school. For example, I provide a variety of communication activities, such as pictures exchange system (PES), children books, computer (CAI), television, radio, and tape cases, and toys (puzzles, Legos [sic], balls, and puppets) at the back of the classroom.</td>
</tr>
</tbody>
</table>

*Note.* Comments are direct quotes from principals’ and teachers’ interviews.
Teacher Training and Supervision

“Teacher Training” refers to the policies and procedures designed to equip teachers with the knowledge, attitudes, behaviors and skills they require to perform their tasks effectively in the school and classroom so they can help children with the academics and social skills essential for learning. In recent years, teacher training and staff development for Thai preschool educators has become a key component of Thai preschool improvement plans (Office of the National Education Act, 1999). All respondents indicated that the teacher training component in appropriate and instructional curricula promotes teaching of students with autism in inclusive classrooms in Thailand. Examples of the respondents’ statements include “The teacher training is important in providing information about implementing developmentally appropriate practices in the classroom, understanding child development, and instructional teaching.” “The teacher training enhances the quality of instruction education.” “I gained experiences of teaching strategies for the teacher training.” Three respondents indicated that it was difficult to find teachers whose educational backgrounds were early childhood education, child development, or related areas. Only a few of them were qualified. One principal stated,

When the numbers of teachers are short, I hire teachers who graduate from non related areas of early childhood education, but who love and care for young children. I think if the teachers care for young children, it is not difficult to train them about how to educate young learners.

One teacher stated, “The teacher training increased skills and techniques to teach young children. I am more confident after receiving the teacher training.” Another teacher said, “I think the teacher training enhances the quality of instruction.”

Principals have paid attention to increasing their teachers’ professional development. Five principals indicated that they sent the teachers and staffs to participate in the teacher training and educational conferences that are offered by educational institutions and by the
Office of the Private Education Commission. The previous training provided information about the implementing of developmentally appropriate practices in the classroom, understanding child developments, and understanding the unique nature of autism spectrum disorder (ASD) and learning strategies for teaching socialization skills to students with Autism Spectrum Disorder. Moreover, the teacher training discussed ways to better understand the behaviors of students with ASD.

Teachers who participated in teacher training were educated to incorporate neuroscience and developmental research-based activities into their classrooms in order to create stimulating environments for young children. Based on the journal, one teacher noted,

I learned from the teacher training that children with autism communicate with the Picture Exchange Communication System (PECS) to help them acquire these skills. So I address this teaching strategy by providing an organized classroom with specific areas that the student can identify through verbal or visual clues. Pictures and words used all around the classroom to help identify areas such as where coats and lunches are stored, pencils are sharpened, and books are put on the shelf. I also labeled items which pictures and had the children spell and read words every morning. Children memorize those pictures, words and can spell by themselves without my help. Students with autism often struggle to express what they need or what they do not understand by pictures.

The findings from all 30 interviews indicated that the teacher training enhanced teachers’ abilities to create enriching learning environments, and positively influenced critical areas of the child’s development. Information obtained from the study indicated that teachers became more aware of how to apply what they learned in their programs. Also, teachers indicated they became more knowledgeable about appropriate strategies to teach students with autism. So, the teacher training increases skills and techniques to teach children.

Moreover, the data indicated that the teacher training should be provided at least three times a year. Participants were interested in learning more about how to help young children
develop their learning skills, using questions to develop social skills and for applying classroom management. The study’s findings revealed that teacher training should include hands-on activities and a variety of activities to meet the needs of children with different learning styles. All respondents revealed that they gained experiences from the teacher training, participation and collaboration with the staff. Examples of respondents’ statements were “The teaching training promotes my professional career.” “The teacher training increases knowledge about the child’s development and practices to enhance children’s learning.” “I would like to see the educational institutions in Thailand provide teacher training. Teachers need to experience teaching strategies.” “I don’t see much training provided by the professionals at the university level. I think it is a good idea that professors and the faculty members collaborate and provide training for teachers.”

The findings showed that the teacher training and staff development were critical. One teacher indicated, “I need to brush up on new teaching techniques, since I left the school several years ago. I think it is important that teachers should update new information about instruction and new research findings to help children’s learning.”

The director revealed,

Teachers and staffs got benefits from the training. I think it is essential for teachers to learn new information all the time because children today are different from the children in the past. Children today learn from media and internet. If teachers are not enthusiastic persons, their knowledge may be behind the children’s.

One teacher stated, “I think the teacher training covers content that is appropriate to the needs of Thai teachers and early childhood professionals.” The principal indicated, “I think Thai teachers could apply the knowledge that they learned from the training. I need to have experiences of hands-on activities so that I can see pictures and activities to show to young children.” Three teachers suggested that the next teacher training program contain strategies for
young children with different learning styles. The first teacher said, “Children differ in the learning styles. Teachers should understand styles of learning and know teaching techniques help each child develop learning in a full capacity.” The second teacher revealed, “I need specialized training in working with children with different learning styles.” The third teacher said,

Every child possesses several distinct learning traits. Some children learn better when they learn by themselves, whereas others learn better when they work with their classmates. I think teachers should be trained about teaching techniques for the children with different learning styles.

The sixth principal stated,

The teacher training program can be presented in various forms - seminars, workshops, classes or in services. A variety of methods will be used to present the training effectively, such as lectures, discussions, film, role play, another various exercises. This will be an interactive workshop; trainers will be encouraged to participate in various activities in order to gain maximum understanding and methods application. In addition, this program focuses on teaching teachers’ skills to help them become teachers of their own children and successful educational strategies.

The findings showed that 120 text units (34% of the text units) made up “Teacher Training and Supervision” category. Seventy-five percent of the principals and teachers said the teacher training and staff development enhance the quality instructional strategies of the curriculum for students with autism, while 45% of the principals and teachers responded that most schools did not have financial support for teaching training. One hundred percent (100%) of the teachers attribute a better understanding of their knowledge, skills, techniques, and effectiveness of instruction strategies of teaching students with autism to teacher training. Table 9 provides sample principals’ and teachers’ responses for “Teacher Training and Supervision.”
Table 9

Sample of Responses for Interview Question 1, Category Teacher Training and Supervision

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher training and supervision</td>
</tr>
<tr>
<td>• I gained teaching strategies from the special education training.</td>
</tr>
<tr>
<td>• The special teacher used this multipurpose room to provide a special training for teachers, parents, and interested people.</td>
</tr>
<tr>
<td>• The training supports instructional strategies.</td>
</tr>
<tr>
<td>• Some teachers have little knowledge or information of appropriate strategies to teach students with autism. So, the teacher training increases skills and techniques to teach children.</td>
</tr>
<tr>
<td>• The school provides teacher trainings or conferences about 3-4 times per semester.</td>
</tr>
<tr>
<td>• I think the teacher training enhances the quality of instruction.</td>
</tr>
<tr>
<td>• The teachers in our school received training from the Child Psychiatric Hospital as well as from educators from the University.</td>
</tr>
<tr>
<td>• If teachers have a bachelor’s degree in a different field, they are required to have at least two years teaching experience with young children or teacher training at least 3 times.</td>
</tr>
<tr>
<td>• The special education training supports instruction strategies.</td>
</tr>
<tr>
<td>• I sent teachers to receive training. After they came back, the teachers who took the training would educate and guide other teachers who did not attend the training.</td>
</tr>
<tr>
<td>• The information that I got during the training helped me to understand what kind of strategies and resources to teach my student with autism.</td>
</tr>
<tr>
<td>• The teacher training should provide information about implementing developmentally appropriate practices in the classroom, understanding child development, and instructional teaching.</td>
</tr>
<tr>
<td>• I want to send our teachers to training as much as I can, but the problem is we did not have financial support from the government.</td>
</tr>
</tbody>
</table>

Note. Comments are direct quotes from principals’ and teachers’ interviews.
Transition Planning

The transition from school to adulthood is pivotal in the lives of all students (Benz, Lindstrom, & Yovannoff, 2000). As the transition plan is a part of the student’s IEP, the regulatory provisions concerning the distribution and filling of the IEP apply also to the transition plan. For a student with autism, transition of any kind can be challenging and the transition from school to the world of adulthood can seem even more so. It can be accomplished by using proactive and creative strategies that specifically address the behavioral and educational needs of these students. Staff will be able to achieve a higher probability of success for students to achieve their desired post-school outcomes. One teacher stated, “The transition plan is an important part of an individual’s life.” Four teachers indicated that families are looking for an academic program that prepares their children to be ready for the transition.

The first principal stated,

Our curriculum focuses on developing skills that will be of use in the student’s current and future life in school, home, and community. For the student with autism, successful transition will take into account the communicative, social, behavioral and sensory needs that render the student eligible for services based on these students.

The third teacher said,

In our school, we want every child has a future’s life. We don’t want our children stop or the end at this school. We want children to grow and have abilities to study to the next level or other schools. Thus, the transition plan is set up for every child.

Another teacher indicated that after she went to the meeting between teacher, parent, and community, she learned that it is important that the transition process involve taking action. After identifying areas of interests and setting goals, one must take some active steps to meet those goals. For example, a student with autism with particularly sharp computer skills is dismissed from school early a few days a week to work with an aide at a data processing office. This position was acquired through the vocation rehabilitation office, and they continued to provide
needed support. Before beginning this job, the student was taught appropriate office social skills and important office procedures, such as using a time clock.

In Thailand, the transition plan is a required component of IEPs for students 16 years old or older, although most systems create plans for students as young as 14 years, presumably before the student begins high school. The purpose of the transition plan, known in some districts as an ITP (individual transition plan), is to plan for what that student will do after high school and then map out a course for getting them there. Generally the plan lists student preferences, interests and abilities, and then considers possibilities. As the years go by, the ITP should become more detailed and focused. As part of this plan, the student is informed in the year he/she turns 17 that all rights transfer to them. One teacher stated, “Students will have access to sufficient resources to enable him/her to complete the planned actions and steps leading to achievement of the goals.” A principal indicated, “Transitions to new placements and new school experiences usually require careful planning and assistance.”

Another principal said,

My students, who are severe, are no exception. Rights transfer to them unless the parent applies for and obtains guardianship of that student. I’ll probably discuss this issue in a later post since it involves some detail, but parents should initiate this process soon after the student turns 17. The process takes away rights from the student and grants them to the guardian by declaring the student incompetent. But it is a necessary process, because it protects the student from being abused and taken advantage of by the system. For less severe students, partial guardianship may be obtained to protect their interests.

The fourth principal stated,

Planning for transition should take place, in a parent’s mind, right now. No matter the age of the child, parents are the ones who have to take the much longer view. While teachers, schools and programs come and go, the parent is the one constant in that child’s life and along with the child has to live with the consequences of decisions made today.

The sixth principal indicated,
For individuals with an autistic spectrum disorder (ASD), it is even more important to ensure that they are involved, prepared and understand the changes, which are likely to take place as planning and securing future direction. It also provides all agencies with opportunity to support for individuals with special needs.

The findings indicated that “Transition Plan” was ninth highest response rate, with 76 text units or 31% of the responses. Seventy-three percent of the principals and teachers said the transition plan was part of the student’s IEP. The purpose is to coordinate the contributions of all relevant professionals and agencies in order to support students with disabilities and their families effectively during transition from school to adulthood. The Transition Plan is based on self-determination and self-advocacy which are life-long processes that one becomes more proficient in through solving problems, making choices, and evaluating consequences (Renzaglia, Karvonen, Drasgow, & Stoxen, 2003). The needs and strengths of the student are fully accounted for the plan (Thoma, Rogan, & Baker, 2001). One principal indicated that a transition team includes a child with autism, family, guidance counselor, independent living center representative, postsecondary education support services provider, and a student with a learning disability who had graduated two years ago and is currently attending college. For students with autism, accommodations will most likely focus in the areas of preparation for IEP meetings, participating in the meeting process and working toward identifying post-school goals, and developing the IEP goals and objectives that will lead them to their desired post-school outcomes. According to Harvell (2005), the process of creating a transition plan includes:

Step 1. Teacher/parent/student meeting. (The meeting will help the specialist to understand parents’ and students’ current problems.)

Step 2. Information providing. (The information will help to understand what kind of information and resources that is applicable to both parents and student.)

Step 3. Collaboration among parents, school, and community. (Contact with
community, set up meeting and plan, implement discussion for reaching the goal.)

Step 4. Evaluation. (Assessment for parents, school, community, feedback, and make a profile.)

Step 5. Transition. (Build a cooperated system, and keeping the system going.)

Table 10 provides principals’ and teachers’ responses for the “Transition Plan” category.

Table 10
Sample of Responses for Interview Question 1, Category Transition Planning

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition planning</td>
</tr>
<tr>
<td>• Teacher expressed concern that her behavior was so inappropriate that she might be a candidate for institutionalization when she was older.</td>
</tr>
<tr>
<td>• The curriculum focuses on developing skills that will be of use in the student’s current and future life in school, home, and community.</td>
</tr>
<tr>
<td>• Transitions to new placements and new school experiences usually require careful planning and assistance.</td>
</tr>
<tr>
<td>• The transition plan is an important part of an individual’s life.</td>
</tr>
<tr>
<td>• Its purpose is to coordinate the contributions of all relevant professionals and agencies in order to support the students with disabilities and their families effectively during transition from school to adulthood.</td>
</tr>
<tr>
<td>• Students will have access to sufficient resources to enable him/her to complete the planned actions and steps leading to achievement of the goals.</td>
</tr>
</tbody>
</table>

Note. Comments are direct quotes from principals’ and teachers’ interviews.

Parent Involvement

Some schools value parent involvement by providing numerous opportunities for parents to interact with each other, with teachers, and with students. Moreover, some schools send newsletters and calendars home regularly, alerting parents to school functions and ways they can participate. One hundred and six text units (41% of the total text units) make up the “Parent Involvement” category. Seventy percent of the principals and teachers reported growth, specifically stating they could do a better job in their teaching when they receive assistance from
parents and community. Of those reporting growth, 76% of the comments specifically mentioned family involvement as a crucial component in making families better understand the teaching program. One teacher said, “I agree parental involvement helps children in school and life.” A principal stated, “Family involvement is a crucial component in making families better understand our program.” Another teacher said, “It is important for families to be involved in their children’s formal education.”

According to another principal,

I believed that children will benefit from their education when teacher, parents, and community collaborate. Developing strong partnerships among schools, families, businesses, and community and religious groups is the best way to make our educational system thrive. Also, teachers could do a better job in their teaching when they receive assistance from parents and community.

A second principal stated,

Our curriculum corresponds to the needs of families who want their children to achieve the skills necessary for success in school and life. Before we put students with autism in inclusive classroom, we explain and talk to teachers and students’ parents about how they can help their children with academic and social skills essential for learning. Therefore, parents should understand curriculum goals of their child’s school program and encourage their children’s school activities.

Results indicated that parent involvement is a crucial component in appropriate and instructional curricula that promote teaching of students with autism in inclusive classrooms. Inviting parents to participate in classroom activities gives them a firsthand opportunity to see the children’s responsiveness to involvement activities.

The first principal stated,

One important way that parents can become involved in your child's schooling is to participate or any events at schools. In our school is moving toward "school-based management," in which administrators share the responsibility for operating schools with teachers, students, parents, and community members. Parents can become involved in committees that govern your child's school or join the local parent-teacher association.
Another teacher stated, “We encourage parents to be volunteer opportunities for working parents and to schedule some school events outside of the school day to increase participation.”

The fourth principal said,

In our school, we provide a teacher-parent meeting once a semester so that parents have opportunities to meet and share information with teachers about their children. After parents came to the meeting, they wanted to support, encourage and cooperate with the child’s school program.

Another teacher related,

There are many opportunities for parents to interact with the class activities. For example, parents can visit a child's classroom. The parents will know what their children do at school and how their children interact with other children. Another way is to volunteer to help in the classroom as an assistant. Parents can support student events and performances by helping with them and by attending them. One semester, we had one parent came to our classroom and read a children’s book to our children. Children enjoyed discussing the book with parents. It encouraged children to talk about issues, characters, and themes in their reading. They learned to think and try to connect these ideas to their lives.

Another teacher stated, “One parent asked me if our school has materials that she can use to help her child at home and to supplement homework. Thus, I believe that parental involvement helps children succeed in school and life.” Table 11 provides sample principals’ and teachers’ responses for the “Parent Involvement” category.
### Table 11

*Sample of Responses for Interview Question 1, Category Parent Involvement*

<table>
<thead>
<tr>
<th>Parent involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>- There are several parents who cooperate with the class activities.</td>
</tr>
<tr>
<td>- Before we put students with autism in regular classrooms, we explain and talk to teachers and students about how they can help their children with academic and social skills essential for learning.</td>
</tr>
<tr>
<td>- The curriculum emphasizes academic learning which prepare their children to be ready for school.</td>
</tr>
<tr>
<td>- The curriculum corresponds to the needs of families who want their children to achieve the skills necessary for success in school and life.</td>
</tr>
<tr>
<td>- Parents and families should receive training on how to raise their children to be successful in school and life.</td>
</tr>
<tr>
<td>- Family involvement is a crucial component in making families better understand our program.</td>
</tr>
<tr>
<td>- I agree that parental involvement helps children succeed in school and life.</td>
</tr>
<tr>
<td>- In our school, we provide a teacher-parent meeting once a semester so that parents have opportunities to meet and share information with teachers about their children.</td>
</tr>
<tr>
<td>- After parents came to the meeting, they wanted to support, encourage and cooperate with the child’s school program.</td>
</tr>
<tr>
<td>- It is important for families to be involved in their children’s formal education.</td>
</tr>
<tr>
<td>- Parents should understand curriculum goals of their child’s school program and encourage their children’s school activities.</td>
</tr>
<tr>
<td>- There are a variety of forms of community involvement, including providing financial support to early childhood programs, and volunteers to teach children in class.</td>
</tr>
<tr>
<td>- Developing strong partnerships among schools, families, businesses, and community and religious groups is the best way to make our educational system thrive.</td>
</tr>
<tr>
<td>- Teachers could do a better job in their teaching when they receive assistance from parents and community.</td>
</tr>
<tr>
<td>- Informing and preparing everyone involved, the process of student’s selection, a cooperative relationship among the school, hospital and parents, the development of curriculum and instruction, staff training, and support services.</td>
</tr>
<tr>
<td>- I believe that children will benefit from their education when teacher, parents, and community collaborate.</td>
</tr>
</tbody>
</table>

*Note.* Comments are direct quotes from principals’ and teachers’ interviews.
“Enriched Environment” was defined as the living surroundings that provide appropriate stimulating experiences that increase capacity to develop full potential and is set on the path of lifelong learning (Diamond & Hopson, 1998). Environments are important to consider when teaching children with autism because environments can lead to brain development or impairment in children with autism (Furneaux & Roberts, 1977). These environmental factors include the classroom materials and tools. In the observed classrooms, teachers provided intervention procedures to teach new skills or change behavior and use appropriate tools to help evaluate new methods of teaching students with autism (Hecimovic, Powell, & Christensen, 1999). One teacher stated, “This room had a lot of material aids, which appeared neatly and well decorated. Children used a variety of materials such as crayons, paint, clay, and markers to develop their imaginations.”

Another teacher stated,

Teachers select activities that match children’s needs, and students have considerable choices of learning centers for their activities. There are various sections throughout the room that enable the students to make choices about areas where they would most like to interact.

The principal said,

The curriculum is designed to help children gradually develop the skills of learning. The classroom environment contributes to young children’s development with opportunities to develop skills in cooperating with other children.

Results from the interviews indicated that 67 text units (26% of the text units) make up the “Tools/Classroom Environment” category. Sixty-nine percent of the principals and teachers said environment was important to consider in teaching students with autism. In the classroom, teachers provided intervention procedures to teach new skills or change behavior, and used appropriate tools to help evaluate new methods of teaching students with autism.
According to Association for Science in Autism Treatment (2008, p. 1) “Several studies support the use of computer-assisted instruction with individuals with autism to increase vocabulary, recognition of symbols, identification of written words, and skills at naming and predicting emotions.” All of six sides in this study provided computer experiences for children with autism to use for learning vocabularies and playing games. One teacher stated, “I allowed children with autism to play computer because I think that computer encourage learning and problem solving through motivating activities.”

A principal stated,

Every classroom has computers. Teachers teach young children basic computer skills, including eye and hand coordination and computer vocabularies, such as a mouse, a screen, and a keyboard. Children with autism should learn about the basic use of the computer and technology since they are young.

A principal stated, “The use of computer-assisted instruction may be an effective teaching procedure for individuals with autism in increasing a variety of skills, though additional research is needed to confirm this finding.”

Classroom environments must provide students with information on events, activities, and expectations in a manner that students with autism can easily understand. In general, all classrooms in the six sites appeared to be well organized and useful. There were various sections throughout the room that enabled the students to make choices about areas where they would most like to interact. Such areas included a blocks center, a home center, a writing center, a visual center, a books center, and a computer center. These centers were built on an open concept to allow easy access for various types of equipment that might be needed by the students with autism. In the corner of one classroom, there were audiovisual materials (television, computers, radio, and tape cases) systematically designed for free time activities. Students’ desks were arranged in one large circle. On the shelves, each child had a paper box covered with colorful
paper for individual storage. On the wall, boards were used to show students’ artworks. There also were attractive pictures and colorful posters on various topics, such as numbers, Thai and English alphabets, and familiar fruits and vegetables. The classroom doors introduced class members. The teacher stated, “The classroom environment contributes to young children’s development with opportunities to develop skills in cooperating with other children.” Table 12 provides sample principals’ and teachers’ responses for the “Tools/Classroom Environment” category.
Table 12

*Sample of Responses for Interview Question 1, Category Tools and Materials in the Classroom Environment*

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tools and materials</strong></td>
</tr>
<tr>
<td>• Provide tools, such as written or picture schedules, to ensure that flow of activities is understandable and predictable.</td>
</tr>
<tr>
<td>• This room had a lot of material aids, which appeared neatly and well decorated.</td>
</tr>
<tr>
<td>• There are various sections throughout the room that enable the students to make choices about areas where they would most like to interact.</td>
</tr>
<tr>
<td>• The students had considerable choices of learning centers for their activities.</td>
</tr>
<tr>
<td>• The curriculum is designed to help children gradually develop the skills of learning.</td>
</tr>
<tr>
<td>• Children use a variety of materials such as crayons, paint, clay, and markers to develop their imaginations.</td>
</tr>
<tr>
<td>• Teachers select activities that match children’s needs.</td>
</tr>
<tr>
<td>• The classroom environment contributes to young children’s development with opportunities to develop skills in cooperating with other children.</td>
</tr>
<tr>
<td>• The room was also used for parent orientation and conferences and a variety of other school activities.</td>
</tr>
</tbody>
</table>

*Students’ Class Assignment*

Many researchers suggest that smaller classes offer teachers the chance to devote more time to each student so as to improve their learning. A number of states have already implemented class-size reduction programs, and others are in the process of development. Each student in a reduced size-class gets more attention on average from the teacher, and more time to speak while the others listen. Reduced class size also reduces the level of noise in a class. One theory offered to explain the positive effects of class-size reduction on student achievement argues simply that in smaller classes, each student receives a larger portion of the educational resources represented by the teacher's instructional time, and consequently, learns more.
In general, in Thai preschools, there are between 30 and 40 students in a classroom each year. Three principals suggested that the ratio of teachers to students in the classroom is also important for teaching students with autism in inclusive classrooms. One teacher stated, “I understand that a small number of students in the class impacted the children’s development and achievement.” Another teacher expressed, “I believe that learning in smaller classrooms is more effective than in larger groups.”

The findings from the present study showed that the school principals and teachers agreed with the curriculum programs for teaching students with autism that small groups of students in one class allow children to actively participate with teachers. However, four principals indicated that they could not reduce the class size because they did not have financial support from the government. Five respondents, including two principals and three teachers, indicated that children in the classroom should work in small groups with others in completing tasks and projects. One respondent stated, “With more time for each child, increased understanding, and a more exciting curriculum cause children to respond more positively to teachers.” Three respondents, including two principals and one teacher, indicated that, although they understood that learning in smaller classrooms is more effective than larger ones, financial constraints control the class size. They could not reduce the number of students in each classroom. One principal indicated that preschools did not receive financial support from the government. Thus, the more students who were registered in school, the more income were earned.

Results from the interviews indicated that respondents learned from the teacher training that smaller class size allows teachers to work closer to children than the larger class size. One
teacher stated, “I understand that the class size impacted the children’s development and achievement, but I could not lower the class size.”

The teacher added,

I could not shrink the class size but I solved problems by supporting teachers to develop their professional qualities. I sent teachers to receive training. The teachers who took the training would educate and guide the teachers who did not attend the training. Teachers are assigned to take turns in training attendance.

In addition to supporting the professional development, one principal solved the problems of shrinking a class size by breaking young children into small groups.

Another teacher stated,

The classroom teacher divided children into five smaller groups. Each smaller group, which consisted of five or six students, is doing activities that the teachers assigned to do in a group. Each group is assigned to do different activities. The teacher allows students to do each activity for five minutes. Then, the teacher gives a signal by ringing a bell so that the students know that they have to change a group.

Findings revealed that “Students’ Class Assignment” drew the lowest response rate, with 76 text units representing 20% of the total text units and 65% of the principals and teachers commenting. The most frequent comment from the principals and teachers was that having a higher a number of students with autism in classrooms affects teaching. The ratio of teachers to students in the classroom was also important. The small group of students with autism helps the teacher concentrate on their teaching and helps students be more active in their learning. More than (53%) of the principals responded that most schools did not have financial support to provide more special teachers for students with autism. Table 13 provides sample principals’ and teachers’ responses for the “Students’ Class Assignment” category.
Table 13

Sample of Responses for Interview Question 1, Category Students’ Class Assignment

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students’ class assignment</td>
</tr>
<tr>
<td>• Teacher provides a variety teaching formats (large group, small group, and one-on-one)</td>
</tr>
<tr>
<td>• I understand that the small number of students in the class impacted the children’s development and achievement.</td>
</tr>
<tr>
<td>• The small group of student helps teacher concentrates of their teaching and helps students remain active on their learning.</td>
</tr>
<tr>
<td>• The ratio between teacher and students in the classroom is also important.</td>
</tr>
<tr>
<td>• Each general classroom was consisted two head teachers and approximately thirty students. However, the general classrooms which had students with autism had an extra special education assistance teacher attending these students.</td>
</tr>
<tr>
<td>• I believe that learning in smaller classrooms is more effective than in larger groups.</td>
</tr>
<tr>
<td>• Even though we couldn’t reduce the number of students in each classroom, one teacher solved the problems by placing young children into small groups.</td>
</tr>
</tbody>
</table>

Note. Comments are direct quotes from principals’ and teachers’ interviews.

Research Question 2: What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand?

I used descriptive data analysis including frequency, mean, and standard deviation to address the second research question: To what teaching strategies improve students with autism achievement and learning skills in inclusive classroom? Means and standard deviations were computed on each of the 23 observation items to explore teaching strategies to improve achievement levels and learning skills of students with autism in inclusive classroom. The 23-item list was developed by the University of North Texas, Center of Autism Research and Education Programs in Special Education (Callahan, 2004) and used a 5-point Likert scale (1
Definitely not observed, 2 Mostly likely not observed, 3 Uncertain if activity is observed, 4 Possibly observed, and 5 Definitely observed) to quantify the items observed.

The results of data analysis of the six schools, as reported in Table 16, revealed that after watching for the 23 teaching strategies in the six schools, nearly all the strategies were observed in all six schools. That is, nearly all strategies were “Possibly observed” in each school. Therefore, the mean score for observed teaching strategies (23) in all six schools was 4.14, thus falling in “Possibly observed” overall.

The Likert-type scale used in data analysis was the reverse of item 1 to item 23 as follows:

1. The use of specialized curricula and strategies to teach social skills.

2. The use of physical classroom organizers such as color-coded materials, finished boxes, and kitchen timers.

3. The use of a variety of instructional groupings, including individual, small, and large groups.

4. Providing a structured classroom environment and consistent, predictable routines (including structured approaches to task presentation, and clear guidelines for expectations of appropriate and inappropriate behavior).

5. The use of punishment and/or aversive stimuli in order to decrease inappropriate behaviors.

6. The use of direct instruction (emphasizing the use of specified teacher directions, programmed instruction and presentation of materials, examples, prompts, the use of reinforcement and mastery learning principles, regular and direct assessment, and teaching prerequisite skills).
(7) The use of adult-directed strategies (procedures in which adults systematically prompt or model) to ensure appropriate student responses.

(8) The use of visual activity schedules, visual supports, and other visual systems in order to prompt or remind students to organize work and material and/or engage in appropriate behavior or activities.

(9) The use of specialized curricula and strategies to teach communication skills (including script fading, written social phrases, functional communication training, and teaching spontaneous self-imitated responses/verbal imitations).

(10) The use of low student-to-teacher ratios (fewer than or equal to three students to every adult) and sufficient adult attention in one-on-one and small group instruction in order to meet individualized instructional goals.

(11) The use of technology, including computers, handheld electronic devices, and other augmentative communication devices.

(12) The use of pictorial storyboard simulations and/or social stories to increase desired behaviors.

(13) Active engagement of children throughout the day in intensive instructional programming, with repeated planned teaching opportunities and frequent opportunities to practices new skills.

(14) The use of cooperative learning (small groups of students working together to maximize their own and one another’s learning).

(15) The use of differential reinforcement strategies (systematically reinforcing only alternative and/or incompatible target behaviors) in order to decrease or eliminate inappropriate behaviors.
(16) The use of intensive instructional trials (teaching targeted skills within a highly structured, one-to-one format, providing clear and concise instructions and systematic reinforcement for correct responses).

(17) The systematic use of prompting, shaping, chaining and fading to teach new skills.

(18) The use of modeling (including videotape modeling of self, peer, and adults) in order to teach imitation of new skills.

(19) The use of visually-based augmentative communication systems, such as picture exchange systems and/or communicating with pictures.

(20) The use of extinction (withdrawing or withholding attention or reinforcement in order to decrease inappropriate behaviors).

(21) The use of interventions that target sensory deficits in the areas of the olfactory, gustatory, tactile, vestibular, proprioceptive, and auditory systems as well as vision (sensory integration).

(22) The use of art and music to teach individualized skills.

(23) Establishing secure, caring teacher-student relationships, and engaging children in active, positive interactions with adult.
Table 14

*Teaching Strategies Observation on a 5-point Scale*

<table>
<thead>
<tr>
<th>Observation item number</th>
<th>Definitely observed</th>
<th>Possibly observed if activity is observed</th>
<th>Mostly likely not observed</th>
<th>Definitely not observed</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>33.3</td>
<td>1</td>
<td>16.7</td>
<td>2</td>
<td>33.3</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>83.3</td>
<td>1</td>
<td>16.7</td>
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<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>66.7</td>
<td>0</td>
<td>0.00</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>33.3</td>
<td>3</td>
<td>50.0</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>5</td>
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<td>0.00</td>
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<td>0.00</td>
</tr>
<tr>
<td>6</td>
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<td>16.7</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
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<td>33.3</td>
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<td>16.7</td>
</tr>
<tr>
<td>8</td>
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<td>50.0</td>
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<td>33.3</td>
<td>1</td>
<td>16.7</td>
</tr>
<tr>
<td>9</td>
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<td>83.3</td>
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<td>16.7</td>
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<td>0.00</td>
</tr>
<tr>
<td>10</td>
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<td>83.3</td>
<td>1</td>
<td>16.7</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>16.7</td>
<td>1</td>
<td>16.7</td>
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<td>16.7</td>
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<td>16.7</td>
</tr>
<tr>
<td>13</td>
<td>5</td>
<td>83.3</td>
<td>1</td>
<td>16.7</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>14</td>
<td>5</td>
<td>83.3</td>
<td>1</td>
<td>16.7</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>33.3</td>
<td>1</td>
<td>16.7</td>
<td>3</td>
<td>50.0</td>
</tr>
</tbody>
</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Observation item number</th>
<th>Definitely observed ( n ) %</th>
<th>Possibly observed ( n ) %</th>
<th>Uncertain if activity is observed ( n ) %</th>
<th>Mostly likely not observed ( n ) %</th>
<th>Definitely not observed ( n ) %</th>
<th>( M )</th>
<th>( SD )</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>4 ( 66.7 )</td>
<td>0 ( 0.0 )</td>
<td>2 ( 33.3 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.33</td>
<td>1.03</td>
</tr>
<tr>
<td>17</td>
<td>3 ( 50.0 )</td>
<td>2 ( 33.3 )</td>
<td>1 ( 16.7 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.33</td>
<td>0.81</td>
</tr>
<tr>
<td>18</td>
<td>2 ( 33.3 )</td>
<td>2 ( 33.3 )</td>
<td>1 ( 16.7 )</td>
<td>1 ( 16.7 )</td>
<td>0 ( 0.0 )</td>
<td>3.83</td>
<td>1.16</td>
</tr>
<tr>
<td>19</td>
<td>5 ( 83.3 )</td>
<td>5 ( 83.3 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.83</td>
<td>0.40</td>
</tr>
<tr>
<td>20</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>6 ( 100.0 )</td>
<td>0 ( 0.0 )</td>
<td>2.00</td>
<td>0.00</td>
</tr>
<tr>
<td>21</td>
<td>5 ( 83.3 )</td>
<td>1 ( 16.7 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.83</td>
<td>0.40</td>
</tr>
<tr>
<td>22</td>
<td>3 ( 50.0 )</td>
<td>2 ( 33.3 )</td>
<td>1 ( 16.7 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.33</td>
<td>0.81</td>
</tr>
<tr>
<td>23</td>
<td>5 ( 83.3 )</td>
<td>1 ( 16.7 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>0 ( 0.0 )</td>
<td>4.83</td>
<td>0.40</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.14</td>
<td>0.69</td>
</tr>
</tbody>
</table>
The result of data analysis for the observation of the six schools, as reported in Table 15, revealed that the use of punishment and/or aversive stimuli in order to decrease inappropriate behaviors (item 5) \((M = 2.00)\) and the use of extinction (withdrawing or withholding attention or reinforcement in order to decrease inappropriate behaviors (Item 20) \((M = 2.00)\) were “Mostly likely not observed” at the six schools.

However, 16 items were “Possibly observed” at the six schools:

- The use of physical classroom organizers like color-coded materials \((M = 4.83)\);
- Finished boxes, and kitchen timer, the use of a variety of instructional groupings, including individual, small, and large groups \((M = 4.16)\);
- Providing a structured classroom environment and consistent, predictable routines (including structured approaches to task presentation, and clear guidelines for expectations of appropriate and inappropriate behavior) \((M = 4.16)\);
- The use of direct instruction (emphasizing the use of specified teacher directions, programmed instruction and presentation of materials, examples, and prompts, the use of reinforcement and mastery learning principles, regular and direct assessment, and teaching prerequisite skills) \((M = 4.83)\);
- The use of adult-directed strategies (procedures in which adults systematically prompt or model) to ensure appropriate student responses \((M = 4.33)\);
- The use of visual activity schedules, visual supports, and other visual systems in order to prompt or remind students to organize work and material and/or engage in appropriate behavior or activities \((M = 4.33)\);
- The use of specialized curricula and strategies to teach communication skills (including script fading, written social phrases, functional communication training, and teaching spontaneous self-imitated responses/verbal imitations) \((M = 4.83)\);
- The use of low student-to-teacher ratios (less than or equal to three students to every adult) and sufficient adult attention in one-on-one and small group instruction in order to meet individualized instructional goals \((M = 4.83)\);
- Active engagement of children throughout the day in intensive instructional programming, with repeated planned teaching opportunities and frequent opportunities to practices new skills \((M = 4.83)\);
- The use of cooperative learning (small groups of students working together to maximize their own and one another’s learning) \((M = 4.83)\);
- The use of intensive instructional trials (teaching targeted skills within a highly structured, one-to-one format, providing clear and concise instructions and systematic reinforcement for correct responses) \((M = 4.33)\);
• The systematic use of prompting, shaping, chaining and fading to teach new skills ($M = 4.33$);
• The use of visually-based augmentative communication systems, such as picture exchange systems and/or communicating with pictures ($M = 4.83$);
• The use of interventions that target sensory deficits in the areas of the olfactory, gustatory, tactile, vestibular, proprioceptive, and auditory systems as well as vision (sensory integration) ($M = 4.83$);
• The use of art and music to teach individualized skills ($M = 4.33$); and
• Establishing secure, caring teacher-student relationships, and engaging children in active, positive interactions with adult ($M = 4.83$).

Table 15 summarizes the responses to the open-ended questions by category.

Table 15

Summary of Teaching Strategies Observation on a 5-point Scale

<table>
<thead>
<tr>
<th>Observation item number</th>
<th>Point scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td>Definitely not observed</td>
</tr>
<tr>
<td>5, 20</td>
<td>Mostly likely not observed</td>
</tr>
<tr>
<td>11</td>
<td>Uncertain of activity is observed</td>
</tr>
<tr>
<td>1, 12, 15, 18</td>
<td></td>
</tr>
<tr>
<td>2, 3, 4, 6, 8, 7, 9, 10, 13, 14, 16, 17, 19, 21, 22, 23</td>
<td>Possibly observed</td>
</tr>
<tr>
<td></td>
<td>Definitely observed</td>
</tr>
</tbody>
</table>

Instructional Teaching Strategies Used in the Classroom

Observation and interview participants reported type of activity by responding to a list of activities presented to six schools and by answering open-ended questions. Since it was possible for field notes to be coded into several different categories, the establishment of categories enabled visual conceptualization of the connections between various components of the study. The following section contains documentation of the information gained in each of the above categories. In the discussion portion of this report, information obtained through research
analysis is applied to the data gathered in this study. This allowed the implications of this study to be outlined and used to answer the research questions.

While gathering data, a coding system was used to indicate what type of teaching strategies were being observed. This coding system listed every type of strategy on a reference sheet. There were clearly established routines. After looking at the various pieces of information gained from the field observations, the following list was created. The strategies were listed in the order in which they generally occurred during the day to produce an easy reference guide. The guide that was used is as follows:

1. Varying teaching format (large group, small group, and one-on-one)
2. Teaching functional communication (giving direction, close-ended questions, or open-ended questions)
3. Reinforcing communication
4. Using demonstration, modeling, and shaping to teach skills
5. Expecting to gather the child’s attention
6. Demonstrating nonverbal communication (use gestures with speech)
7. Using appropriate language for the child (short-sentence structure)
8. Providing visual and materials (books, computers, or real objects)
9. Starting with small intervals of time and reinforce
10. Using other children as peer models for helping
11. Working to maintain eye contact
12. Asking the child to say the word
13. Pointing to objects with hands and with gestures
14. Including regular exercise (active movement activity)
(15) Providing time to be alone, if needed

(16) Using math activities including counting, one to one, odd and even, and patterns

Intervention Programs and Approaches Used in the Classrooms

Intervention programs and approaches that support the development of advocacy roles have been identified and grouped into the following categories (Ernsperger, 2002; Wagner, 1999). Observation and interview participants reported type of intervention programs and approaches by responding to a list of categories presented to 6 principals, 24 teachers in six (6) schools. The results of the data analysis of the 30 participants, as reported in Table 18, is based on a total mean of 2.7 on a 5-point Likert-type scale (1 Never, 2 Rarely, 3 Sometimes, 4 Often, and 5 Always). The results revealed that all of interviewees always used applied behavior analysis (ABA), such as discrete trial instruction (DTI), task analysis, and peer tutoring in their classrooms. However, these classrooms never used floor time approach. Table 16 summarizes the responses to the open-ended questions by category.
Table 16

*Intervention Programs and Approaches Used in the Classroom on a 5-point Scale (N = 30)*

<table>
<thead>
<tr>
<th>Intervention programs and approaches</th>
<th>Always</th>
<th></th>
<th>Often</th>
<th></th>
<th>Sometimes</th>
<th></th>
<th>Rarely</th>
<th></th>
<th>Never</th>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Applied behavior analysis</td>
<td>26</td>
<td>86.7</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>5.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2. Peer Tutoring</td>
<td>20</td>
<td>66.7</td>
<td>10</td>
<td>33.3</td>
<td>5</td>
<td>16.7</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>4.5</td>
<td>0.7</td>
</tr>
<tr>
<td>3. Sensory Integration</td>
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<td>00.0</td>
<td>8</td>
<td>26.7</td>
<td>15</td>
<td>50.0</td>
<td>5</td>
<td>16.7</td>
<td>0</td>
<td>00.0</td>
<td>3.1</td>
<td>0.6</td>
</tr>
<tr>
<td>4. Video Modeling</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>17</td>
<td>56.7</td>
<td>5</td>
<td>16.7</td>
<td>0</td>
<td>00.0</td>
<td>3.1</td>
<td>0.6</td>
</tr>
<tr>
<td>5. Motivation and Reward</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>18</td>
<td>60.0</td>
<td>12</td>
<td>40.0</td>
<td>0</td>
<td>00.0</td>
<td>2.6</td>
<td>0.4</td>
</tr>
<tr>
<td>6. Social Stories</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>18</td>
<td>60.0</td>
<td>12</td>
<td>40.0</td>
<td>0</td>
<td>00.0</td>
<td>2.6</td>
<td>0.4</td>
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<tr>
<td>7. Incidental Teaching</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>15</td>
<td>50.0</td>
<td>10</td>
<td>33.3</td>
<td>5</td>
<td>16.7</td>
<td>2.3</td>
<td>0.7</td>
</tr>
<tr>
<td>8. Music Therapy</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>5</td>
<td>16.7</td>
<td>15</td>
<td>50.0</td>
<td>10</td>
<td>33.3</td>
<td>1.8</td>
<td>0.6</td>
</tr>
<tr>
<td>9. TEACCH</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>10</td>
<td>33.3</td>
<td>10</td>
<td>33.3</td>
<td>10</td>
<td>33.3</td>
<td>2.0</td>
<td>0.8</td>
</tr>
<tr>
<td>10. Holding Therapy</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>20</td>
<td>66.7</td>
<td>10</td>
<td>33.3</td>
<td>1.6</td>
<td>0.4</td>
</tr>
<tr>
<td>11. Floor Time</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
<td>0</td>
<td>00.0</td>
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<td>00.0</td>
<td>30</td>
<td>100.0</td>
<td>1.0</td>
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<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.7</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Research Question 3: What are the problems of curriculum for teaching students with autism in inclusive classrooms in Thailand?

The answers to this question and the extended questions revealed the problems for teaching students with autism in inclusive classrooms. Analysis of the interview data revealed six problems by principals and teachers. Table 18 presents participants’ responses, which provide answers to Research Question 3.

Responses from principals and teachers were coded into six categories that emerged as the researcher coded the text units. These categories were lack of special teachers, Lack of knowledge or training for teachers, lack of a good plan and curriculum, lack of supportive services or effective collaboration, lack of budget, and lack of essential information and materials.

Table 17

<table>
<thead>
<tr>
<th>Problem</th>
<th>n text units</th>
<th>% of total units retrieved</th>
<th>% principals and teachers responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of special teachers</td>
<td>127</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>2. Lack of knowledge or training for teachers</td>
<td>120</td>
<td>22</td>
<td>82</td>
</tr>
<tr>
<td>3. Lack of a good plan/curriculum</td>
<td>89</td>
<td>12</td>
<td>76</td>
</tr>
<tr>
<td>4. Lack of supportive services/ effective collaboration</td>
<td>92</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td>5. Lack of budget</td>
<td>87</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>6. Lack of essential information and materials</td>
<td>80</td>
<td>25</td>
<td>68</td>
</tr>
</tbody>
</table>

Note. N = 30. Number of text units does not equal number of participants. Some participants provided more than one response in a particular category. Percentage of principals and teachers responses differs from category to category.
Table 18 contains samples representative of responses given by participants who answered Research Question 3. The primary reasons for unsuccessful curricula for students with autism in inclusive classrooms were: lack of special teachers in the field of special education teachers, teachers had little knowledge or no training in working with students with autism, lack of a good plan and curriculum, lack of supportive services for general education teachers, effective collaboration among teachers, parents and medical personnel, lack of budget and not enough textbooks and materials for teaching students with autism. Samples are divided by response categories as shown in the previous table.

Table 18

Sample of Responses for Interview Question 3

<table>
<thead>
<tr>
<th>Sample of participant responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lack of special education teachers</td>
</tr>
<tr>
<td>• The school needs more teachers in the field of special education or specialists for teaching students with autism.</td>
</tr>
<tr>
<td>• In our school, all teachers hold a certificate in higher education and home economics education. They did not take any classes of special education.</td>
</tr>
<tr>
<td>• Since our school does not have enough special education teachers, one of the teachers, with a bachelor’s degree in physical education, applied for a job to teaching students with autism.</td>
</tr>
<tr>
<td>• Lack of knowledge or training for teachers</td>
</tr>
<tr>
<td>• Most of our teachers have little knowledge or information on appropriate strategies to teach students with autism.</td>
</tr>
<tr>
<td>• I want to send our teachers to training as much as I can, but the problem is we do not have a financial support from the government.</td>
</tr>
<tr>
<td>• If teachers hold a bachelor’s degree in a different field, they are required to have 2 years teaching experience with young children or special education training at least three times.</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 18 (continued).

Sample of participant responses

Lack of a good plan and curriculum

• In Thailand, The Ministry of Education does not have the main curriculum for teaching students with autism. Each preschool provides different curricula.

• Children with autism differ in the learning styles; therefore, it is difficult to have one curriculum will match them all.

• The individualized education program could not work with students because these students have a lower level of abilities and developments.

Lack of supportive services/effective collaboration

• Parents did not understand what the teachers taught their children at school. They expect a lot of work with teachers and their children. The parents should know about school and what happens there. They should have the opportunity to see their children at school.

• Sometimes teachers could not accept the behaviors of students with autism. They rejected our students with autism from the general classrooms.

• Parents are the main support in the development of children with autism; therefore the school would like parents to come discuss their children with teachers and meet with specialists.

• When the principal sent me to the teacher training, it was difficult to find teachers to work in classroom for me. They didn’t want to deal with children with autism.

Lack of budget

• Most of our students with autism come from poor families. Parents could not offer their children the opportunities to meet with specialists.

• The school lacks financial support from the government. The principal wrote the project and turned it in to the Ministry of Education in 2006, but the budget was cut already in 2005.

Lack of essential information and materials

• We do not have enough textbooks and materials for teaching students.

• In our school, we do not have aids especially for students with autism. All kinds of students with special needs use materials and aids together. Also, where the teaching takes place is not appropriate to manage the problem behaviors of children with autism.

• Aids and materials for teaching students with autism are expensive. We cannot afford to buy them. Teachers have tried to make their own materials for students by themselves.

Note. Comments are direct quotes from principals’ and teachers’ interviews.
Summary of Study Results

In this study, I asked three main questions. First, “What contributes to appropriate instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand?” Second, “What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand?” Third, “What are the problems of curricula for teaching students with autism in inclusive classrooms in Thailand?”

The answer to the first question was reported in Table 3, which demonstrated the distribution of text units for the open-ended question referring to the curricula and related lesson plans. The results showed that the common features of effective curricula for teaching students with autism in inclusive classrooms include opportunities, health care, specialized curriculum, students’ individual needs and abilities, guidelines of teaching, teacher training and supervision, transition plan, parent involvement, tools/classroom environment, and students’ class assignment.

The answer to the second research question stemmed from the observations and interviews of 6 principals, and 24 teachers of six schools. The second section of Chapter 4 answered the second research question in Tables 16, 17 and 18. The results of data analysis of the six schools, as reported in Table 16, revealed that after watching for the 23 teaching strategies in the six schools, nearly all the strategies were observed in all six schools. That is, nearly all strategies were “Possibly observed” in each school. Therefore, the mean score for observed teaching strategies (23) in all six schools was 4.14, thus falling in “Possibly observed” overall.

The teaching strategies included varying the teaching format (large group, small group, and one-on-one); teaching functional communication (giving direction, close-ended questions, or
open-ended questions, reinforcing communication, using demonstration, modeling, and shaping to teach skills; expecting to gather the child’s attention; demonstrating nonverbal communication (using gestures with speech); using appropriate language for the child (short-sentence structure); providing visual materials (books, computers, or real objects); starting with small intervals of time and reinforcing; using other children as peer models for helping, working to maintain eye contact; asking the child to say the word, pointing to objects with hands and with gestures, including regular exercise (active movement activity); providing time to be alone; and using math activity to include counting, one-to-one, odd and even, and patterns.

Moreover, the results revealed that intervention programs and approaches used in the classroom include visual strategies, prompting, picture exchange communication system (PECS), applied behavior analysis (ABA), discrete trial instruction (DTI), task analysis, and peer tutoring in their classrooms. However, the classrooms never used floor time approach.

The answer to the last research question can be seen in the findings of the third section of the Chapter 4, which were reported in Tables 19 and 20. Table 19 demonstrated the distribution of text units for the open-ended question referring to the problems for teaching students with autism in inclusive classrooms. The findings in this section revealed six categories: lack of special education teachers, lack of knowledge or training for teachers, lack of a good plan and curriculum, lack of supportive services or effective collaboration, lack of budget and lack of essential information and materials.
CHAPTER V
FINDINGS, CONCLUSION, AND RECOMMENDATIONS

This chapter provides a summary of the study and the findings, conclusions, and recommendations for further study. The primary purpose of the present study is to support the development of an appropriate instructional curriculum for students with autism in inclusive educational classrooms in Thailand. The research questions were:

(1) What contributes to appropriate instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand?

(2) What teaching strategies improve the achievement and learning skills of students with autism in inclusive classrooms in Thailand?

(3) What are the problems of curricula for teaching students with autism in inclusive classrooms in Thailand?

In order to answer these questions, a total of 30 participants, including 6 principals and 24 teachers at six schools, were requested to complete the questionnaires and were interviewed. The study involved in-depth interviews of all the participants, observation of teachers’ instructional methods in classrooms, and document analysis of school curricula and the lesson plans relating to teaching curricula and teaching programs.

This chapter contains three sections. The first section discusses the findings of the study and provides a discussion of the investigation. The second section addresses suggestions or implications of a part of development curriculum for teaching students with autism. The final section points toward directions for future research.
Findings and Critique of Research

This research study was conducted in Thailand. The research design was both quantitative and qualitative in its investigation of the appropriate and instructional curricula to promote teaching of students with autism in six inclusive classrooms in Thailand. I used open-ended questions to obtain information regarding participants’ understandings of the teaching strategies. The purpose of the study was to develop teaching curricula for students with autism in inclusive classrooms, to analyze the teaching curricula that are designed to teach strategies, to investigate enriched environments that are designed to help students with autism develop and learn to their full potential. I combined three qualitative methods to gather data: (1) semi-structured interviews with the principals and teachers of each school; (2) document collection and analysis of the curricula and lesson plans that are implemented in the six schools, and (3) nonparticipant observations of teachers’ instructional methods in the inclusive classrooms.

The first research question asked about the factors of appropriate and instructional curricula to promote teaching of students with autism in inclusive classrooms in Thailand. The results of this question indicated that the opportunities, health care, specialized curriculum, students’ individual needs and abilities, guidelines of teaching, teacher training and supervision, transition plan, parent involvement, tools/classroom environment, and students’ class assignments were applicable to curricula for teaching students with autism in inclusive classrooms.

The findings were parallel to the Schwartz, Billingsley, and McBride article (1996) in which strategies promote teaching curriculum for students with autism in inclusive classrooms. According to Ilene S. Schwartz, Felix F. Billingsley, and Bonnie M. McBride (1996), there are five strategies to provide education services for students with autism in inclusive classrooms:
teach communicative and social competence, use of instrumental strategies that maintain the natural flow of classroom activities, teach and provide opportunities for independence, proactively and systemically build a classroom community that includes all children, and promote generalization and maintenance of skills.

The findings are also consistent with the Dunlap and Fox (1999) article. Glen Dunlap and Lise Fox (1999) mentioned that the effective instruction of students with autism should address structure in the environment, personal care, tools provision, guidelines for teaching, developing skills focus, transitions, and encouragement to parents to participate with schools.

Moreover, in Harrower and Dunlap’s article (2001), “Including Children with Autism in General Education Classroom,” a review of effective strategies mentions that the inclusive classroom has given students with and without disabilities good opportunities to develop friendships and learn about appropriate socialization and communication styles in inclusive education system.

Finally, the findings are consistent with the Grossi-Kliss, J., article (n.d.). According to Joanne Grossi-Kliss, “Successful inclusion of students with ASD in the regular educational setting will depend on the severity of the disability, the attitude and training of the educator, and the collaboration of the educating parties involved” (p. 5-6).

The second research question asked what teaching strategies improve achievement and learning skills of students with autism in inclusive classrooms in Thailand. The results of data revealed that after watching for the 23 teaching strategies in the six schools, nearly all the strategies were observed in all six schools. That is, nearly all strategies were “Definitely observed” or were “Possibly observed” in each school. Therefore, the mean score for observed teaching strategies (23) in all six schools was 4.14, thus falling between “Definitely observed”
and “Possibly observed” overall. The 23 item list was developed by the University of North Texas, Center of Autism Research and Education Programs in Special Education (Callahan, 2004) and used a 5 point Likert scale (1 Definitely not observed, 2 Mostly likely not observed, 3 Uncertain if activity is observed, 4 Possibly observed, and 5 Definitely observed) to quantify the items observed.

The teaching strategies include varying teaching format (large group, small group, and one-on-one); teaching functional communication (giving direction, close-ended questions, or open-ended questions); reinforcing communication; using demonstration, modeling, and shaping to teach skills; expecting to gather the child’s attention; demonstrating nonverbal communication (using gestures with speech); using appropriate language for the child (short-sentence structure); providing visual materials (books, computers, or real objects); starting with small intervals of time and reinforcement; using other children as peer models for helping; working to maintain eye contact; asking the child to say the word; pointing to objects with hands and with gestures; including regular exercise (active movement activity); providing time to be alone; and using math activity to include counting, one-to-one, odd and even, and patterns.

The findings supported Casey’s study (2006) that teachers used types of interaction to teach students in the English as a second language program included: teacher giving directions, teaching responding to the child question, teacher asking child a question, teaching extending child’s conversation, and teacher relating information to real life experiences.

Finally the results of this study revealed that 100% of the teachers used applied behavior analysis (ABA), such as discrete trial instruction (DTI), task analysis, and peer tutoring in their inclusive classrooms. However, these classrooms never used floor time approach. The findings
were parallel with Harrower and Dunlap’s article (2001) that described antecedent procedures used in general classrooms, including priming, prompt delivery, and pictures scheduling.

The third research question asked about the problems of curricula for teaching students with autism in inclusive classrooms in Thailand. The findings revealed that the lack of special education teachers, lack knowledge or training for teachers, the lack of a good plan and curriculum, the lack of supportive services or effective collaboration, the lack of budget, and the lack of essential information and materials are problems of curricula for teaching students with autism in inclusive classrooms in Thailand.

The findings showed that teachers’ having little knowledge or no training is one of the problems of curricula for teaching students with autism in Thailand. This result is consistent with Grossi-Kliss, J. (n.d.). According to Joanne Grossi-Kliss (p. 7), “it is important to find out how knowledgeable and informed preschool teachers are of the necessary skills needed to work with children especially children with autistic spectrum disorder.”

The findings were parallel with Chrontawonpanit’s study (2002), which found that the problems of mainstreaming for students with autism in Thailand were lack of good plans for mainstreaming, lack of effective coordination among involved curriculum development personnel, lack of effective evaluation for students with autism, lack of facilities, and lack of specialized personnel for mainstreaming.

Moreover, the results also agree with Samahito’s study (2001) in which teacher training is necessary for success for life to align with the educational system and culture. The findings revealed “the teacher training should add the content of teaching strategies for children with different learning styles, children with special needs, and children in the English as a Second Language program” (p. 139).
Implications for Practice

This study expands research on the teaching curricula for students with autism in inclusive classrooms in Thailand. The findings of the current study lead to a number of recommendations for implementing teaching curricula and teaching strategies for students with autism in inclusive classrooms in Thailand. The following implications appear to be supported by the study’s findings.

First, the teachers and principals, who were the interviewees, reported that the schools lacked a good plan and curriculum. The schools provided a variety of curricula for teaching students with autism in different ways. These curricula depended on behaviors of students, treatments, environment and teacher’s skills. The schools created programs or curricula for students with autism adopted from the foundations of formal education.

However, some programs or curricula for teaching students with autism were unsuccessful. The teachers were unable to teach students with appropriate strategies, and these students failed to learn in inclusive classrooms. In addition, the students’ developments had regressed in both academic performance and social behaviors. The primary reasons for unsuccessful integration were that the Ministry of Education does not have the specific curricula for teaching students with autism that schools can practice, and teachers had little knowledge or information of appropriate strategies to teach students with autism. Consequently, it is important that the Ministry of Education in Thailand provides a model curriculum for teaching students with autism. The schools will be able to apply the model the foundations of formal education. It is also important for developmental psychologists and educators to decide and provide quality and effective curricula for teaching children with autism.
A second finding of the study also has implications for educating young children with autism in inclusive classrooms in Thailand. This finding is related to teachers’ perceptions of effectiveness in curricula for teaching students;

(1) All 6 principals and 24 teachers believed teacher training and staff development enhanced the quality instructional strategies of the curriculum for students with autism. One hundred percent of the teachers attributed a better understanding of knowledge, skills, techniques, and effectiveness of instruction strategies of teaching students with autism to teacher training.

(2) Forty-five percent of the principals and teachers responded that most schools did not have financial support for teacher training.

(3) All 6 principals and 24 teachers who were the interviewees reported the primary reasons for unsuccessful curricula for teaching students with autism in inclusive classrooms were: lack of special teachers in the field of special education, teachers with little knowledge or no training in working with students with autism, lack of supportive services for general education teachers, inadequate administrative support, ineffective collaboration among teachers, parents and medical personnel, lack of budget and not having enough textbooks and materials for teaching students with autism.

The implications based on principals’ and teachers’ beliefs clearly denote the importance of early childhood teacher training or staff development. The participants in the present study suggested that the Ministry of Education in Thailand should provide more financial support for teacher training for every school. In addition, the training should include teaching strategies or techniques to promote students’ development skills. The schools need to develop collaborative partnerships between educational and medical professionals in researching effective educational
services for those children in Thailand. It is also important for developmental psychologists and educators to decide and provide a model for providing inclusive education to children with autism which model should include: informing and preparing everyone involved; the process of student selection; the cooperative relationship among the school, hospital and parent; and the development of curriculum and instruction, staff training, and support services.

Third, this research study had no information of students with autism in the schools that were observed. The schools that participated in this study had students diagnosed with autism. It was not possible to secure permission from the parents of every child in these schools. I collected data by nonparticipant observation. The observation focused attention on the teacher using strategies, classrooms, and materials. Thus, observation of the children was not a part of this research study. In any future study, the research should include information about the students with autism such as characteristic behaviors, personal characteristics of the child, relationship in family, and results of using treatments of the child. This would give additional information about what could benefit educating young children with autism in inclusive classrooms in Thailand.

Finally, there were only six schools in the present study. The study focused on curriculum for students with autism in inclusive classrooms and analyzed the teaching strategies for students with autism. Further studies should be used a larger sample of school and comparisons made between inclusive classrooms and special settings for children with autism. There should be more research in the field of special education or about students with autism in Thailand.

Direction for Future Research

There are several recommendations for future research based on the findings of the present study. Some possible directions for future studies in this area might include:
(1) What intervention programs for students with autism in inclusive classrooms are used in Thailand? What are appropriate and instructional programs to promote teaching of students with autism in inclusive classrooms? What are the essential features of intervention programs for students with autism in inclusive classrooms in Thailand? How do schools provide quality program goals? How do teachers assess students with autism in the intervention programs?

(2) What are some treatments of young children with autism used in Thailand? What potential does the applied behavior analysis approach have for the treatment of children and youth with autism? Is the Applied Behavior Analysis a potential treatment for children with autism? Based on the results of this study, most schools used applied behavior analysis approach to improve students with autism skills in Thailand. Thus, this question should focus on what kinds of treatments helped children with autism. For the future, the study can be potential reference to improve other research of children with autism and a good guide for researchers to find out the best treatment of children with autism.

(3) What kinds of behavior problems do students with autism exhibit in inclusive classrooms that differ from normal students in the classroom? What strategies do teachers use to manage the behaviors of students with autism in inclusive classrooms in Thailand?
APPENDIX A

DESCRIPTION OF STUDY AND CONSENT FORM
March 5, 2007

Angkhana Onbun-uea  
Department of Counseling, Development and Higher Education  
University of North Texas

Re: Human Subjects Application No. 07-021

Dear Ms. Onbun-Uea:

As permitted by federal law and regulations governing the use of human subjects in research project (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled “Educating Young Children with Autism in Inclusive Classrooms in Thailand.” The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol and consent form are hereby approved for the use of human subjects in this study. Federal Policy 45 CFR 46.109(e) stipulates that IRB approval is for one year only, March 5, 2007 to March 4, 2008.

Enclosed is the consent document with stamped IRB approval. Please copy and use this form only for your study subjects.

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to IRB for this project. Please mark your calendar accordingly. The IRB must also review this project prior to any modifications.

Please contact Shelia Bourns, Research Compliance Administrator, or Boyd Herndon, Director of Research Compliance, at extension 3940, if you wish to make changes or need additional information.

Sincerely,

Scott Simpkins, Ph.D.  
Chair  
Institutional Review Board
Informed Consent Form-Principals and Teachers

You are being asked to participate in a research study conducted by Angkhana Onbun-Uea, a doctoral student in Early Childhood Education Program at the University of North Texas (UNT).

The research title is “Educating Young Children with Autism in Inclusive Classrooms in Thailand.” The purposes of this study are to investigate what constitutes a teaching curriculum for students with autism in inclusive educational classrooms in Thailand, to analyze the teaching curriculum designed to teach strategies to students with autism in Thailand; and to investigate enriched environments to help students with autism develop and learn to their full potential. This study is designed to provide additional information for teachers of Thailand to use to interact with their students with autism in inclusive classrooms and to promote the child's ongoing development. The researcher will collect data in three qualitative methods: (a) Semi-structured interviews. Each interview will last for 60 minutes. Questionnaire and open-ended questions will be used for the interview. You will provide more information about teaching students with autism program in inclusive classrooms including materials and teaching strategies etc. The language will be used in Thai language. The interviews will be translated into English by the researcher for data analysis. During the interview with you, the researcher will take notes and audio record the conversation. All of the research data will be kept locked in the document room at the Education Department, Kasetsart University, Thailand for 3 years.; (b) Document collection and analysis of the curriculum and lesson plans that are implemented in the teaching program; and (c) Non-participant observations of teachers’ instruction in the inclusive classrooms. The researcher will observe teacher using strategies and interact with students with autism in inclusive educational classrooms and investigate enriched environments to help students with autism develop and learn to their full potential. The observation of the children will not be a part of this research study. The study has no negative impact on the child’s status. Observations will be conducted at mutually agreed upon times and location so as not to interfere with a child’s learning in an inclusive educational classroom. The observations also will not interfere with classroom activities. Each observation will last for 60 minutes. Field note observations will be recorded on the observation form which is designed to suit the purpose of observations.

You may benefit from this study by learning how to design and teach strategies that help students with autism to develop and learn to their full potential. This study is designed to provide additional information that teachers can use regarding appropriate strategies when interacting with students with autism in inclusive classrooms. These strategies may also promote children's ongoing development. Moreover, the results of this study may enhance the understanding of comprehensive teaching for students with autism.

Interviews will be conducted at mutually agreed upon times and location so as not to interfere with teachers’ regular duties. Because the non-participant observations occur during the regular classroom routine, there are no anticipated physical, psychological, or social risks, and the study has no negative impact on the child’s status. The purposes of using the non-participant observations in this study are to observe teacher using strategies and interacting with students with autism in inclusive educational classrooms and to investigate enriched environments to help students with autism develop and learn to their full potential. The observation will focus
attention on the teacher using strategies, classrooms, and materials. Thus, the observation of the children will not be a part of this research study.

If you decide to participate in this study, please understand your participation is voluntary and you have the right to discontinue participation at any time without penalty or loss of any of your benefits or rights. The study personnel may discontinue your participation at any time.

The results in this study will be used as part of my dissertation at UNT. The results may also be published in Thai academic journals. I will be an observer and interviewer in your classroom during May 14 until August 20, 2007. Note taking and tape recording are formats that will be possibly used in non-participant observations at your classroom.

I have enclosed a copy of the interview script, questionnaire and permission from IRB to conduct this study. I appreciate your collaboration in this study.

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 or sbourns@unt.edu any questions regarding the rights of research subjects.

If you choose to participate in this study, please sign and date this form.

I understand my rights as a research subject, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being done. I have been told I will receive a signed copy of this consent form.

_________________________  ______________________
Signature of Subject        Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known benefits and risks of the research.

_________________________  ______________________
Signature of Principal Investigator & Designee  Date
APPENDIX B

THE OFFICIAL SUPPORT AND PERMISSION LETTERS
December 4, 2006

Secretary of the Basic Education Commission
Office of the Basic Education Commission
Ministry of Education
Rachdamnoen Nok Rd., Dusit
Bangkok, Thailand. 10300

Dear Khunying Kassama Worawan Na Ayutthaya,

Angkhana Onbun-Uea is currently a fully enrolled doctoral student in Early Childhood Education at the University of North Texas. She has completed all of her coursework, passed her written and oral doctoral qualifying examinations, and is in the process of preparing her dissertation. Angkhana has a Bachelor’s and Master’s Degree in Home Economics Education from the Faculty of Education at Kasetsart University, Bangkok, Thailand. She also has experience teaching students at the primary level, including students with autism and related disorders.

Angkhana’s dissertation is titled, “Educating Young Children with Autism in Inclusive Classrooms in Thailand.” It is very interesting and worthwhile topic. It is designed to teach strategies to help students with autism to become contributing members of society. Therefore, I believe Angkhana’s topic to be both timely and important for the International early childhood community. In addition, I believe that the knowledge she will gain from her studies will help fulfill her career goals to contribute to the education of young students with autism as well as to research in this field in Thailand.

In order for Angkhana to gather the necessary research data for her dissertation she needs to have your official support and permission to enter schools and collect the appropriate research data. In addition, she will require the cooperation of the principals and teachers at selected schools in Thailand. Angkhana will identify the specific schools upon her arrival in Thailand in May, 2007.

I respectfully request your approval of this request and thank you in advance for any help you can provide her in order to guarantee the success of this important research project.

Sincerely,

George S. Morrison, Ed.D.
Professor and Program Coordinator
Early Childhood Education
10 January 2007

Dear Dr. Morrison,

Kindly refer your letter dated 4 December 2006 requesting us to provide the official support for Ms. Angkhana Onbun-Uea so as to facilitate her doctoral dissertation on Educating Young Children with Autism in Inclusive Classrooms in Thailand.

I would like to inform you that we are very pleased to assist her in this matter. The schools under our jurisdiction will always avail themselves of every opportunity to coordinate with her as well as provide to her all relevant procedure during her visit.

With best regards,

Sincerely yours,

Mrs. Mandhana Sangkhakrishna
Deputy Secretary-General
For
Secretary-General
Of the Basic Education Commission

George S. Morrison, Ed.D.
Professor and Program Coordinator
Early Childhood Education
University of North Texas
P.O. Box 310829
Denton, Texas 76203-0829
APPENDIX C

QUESTIONNAIRE
University of North Texas
College of Education

Educating Young Children with Autism

in Inclusive Classrooms in Thailand

Principal / Teacher Survey Questions
Section I: General Information
(Questionnaires)

This section asks information about you and your classroom. Please check the appropriate boxes that best suits you.

1. What is your present position?
   - Principal
   - Teacher

2. Your gender
   - Male
   - Female

3. What is your age?
   - Under 20 years
   - 21-30 years
   - 31-40 years
   - 41-50 years
   - Above 50 years

4. What organization is your school under?
   - Office of the National Primary Education Commission
   - Department of Education Bangkok Metropolitan Administration
   - Commission on Higher Education
   - Office of the Private Education Commission
   - Office of the Basic Education Commission
   - Department of Elementary education
   - Office of the Non-Formal Education Commission

5. During the day, how many typically children are present in the classroom?
   - Fewer than 20 children
   - 21 to 25 children
   - 26 to 30 children
   - 31 to 35 children
   - More than 36 children
6. How many children with autism are in your classroom?
   - 1 child
   - 2 children
   - 3 children
   - More than 3 children

7. How long have you been working as a teacher?
   - Less than 1 year
   - 1-2 years
   - 3-5 years
   - 6-8 years
   - More than 8 years

8. What is your educational background?
   - High school diploma or certification
   - Bachelor’s degree completed
   - Master’s degree completed
   - Ph.D. / Ed.D. / Other professional degree (nursing or medical)
   - Other (please specific) _____________________

9. If you have a degree, is your degree / professional background in Child Development or Early Childhood education?
   - Yes (please go to the question # 10)
   - No (please go to the question # 9a, 9b, and 9c)

9a. If your degree is not in Child Development or Early Childhood Education, what is your major? _______________________

9b. Did you have any professional training related to Early Childhood education or working with your children?
   - Yes
   - No

9c. Did you have any course work related to Child development / Early Childhood Education?
   - Yes
   - No

10. Did you have any professional training related to Early Childhood education or working with young children?
    - Yes
    - No
11. Did your have any professional training related to special education or working with students with autism?
   - Yes
   - No

12. How long have you working with students with autism?
   - Less than 1 year
   - 1-2 years
   - 3-5 years
   - 6-8 years
   - More than 8 years

13. Have you ever had knowledge about teaching students with autism before having them in your classroom?
   - Yes
   - No

Section II: Teaching students with autism program (Questionnaires)

14. The school provided a teaching curriculum based on the policy of
   - Government
   - Ministry of Education
   - Office of the Basic Education Commission
   - Department of Elementary education
   - Department of Education Bangkok Metropolitan Administration
   - Office of the National Primary education Commission
   - Office of the Private Education Commission
   - Commission on Higher Education
   - Office of the Non-Formal Education Commission
   - Other ……………………..

15. The school establishes the teaching curriculum for
   - Short - term goal (5 years)
   - Intermediate goals (5-10 years)
   - Long – term goal (more than 10 years)
   - Other ………………..

16. The school provides instructional services for a child with special needs.
   - Individualized Education Program (IEP)
   - Individual Induction Plan (IIP)
   - School Plan
   - General curriculum
   - Other ……………………..
17. The teaching curriculum consists of
   - Administration
   - Secretary of the Administration
   - Teacher
   - Psychologist
   - Medical Personnel
   - Special Education Teacher
   - Specialist / Therapist
   - Parents of students with autism
   - Parents of normal students
   - Social Worker
   - Other ………………………

18. The school collaborates with
   - Social Workers
   - Parents
   - Psychologists
   - Therapist
   - Medical Personnel
   - Specialists / Speech and language clinicians
   - Audiologists
   - Organization / ____________
   - Other ………………………

19. What service which school provides for teaching curriculum of students with autism?
   - Full-time inclusive classroom
   - Inclusive classroom with consultant services
   - Inclusive classroom with teacher outside school service
   - Inclusive classroom with tutor teacher services
   - Full-time special classroom
   - Part-time special classroom
   - Other ………………………
20. What intervention programs or approaches do you use for teaching students with autism in inclusive classrooms?
Please check (✓) the appropriate boxes that best suits you.

<table>
<thead>
<tr>
<th>Intervention programs or approaches</th>
<th>Always 5</th>
<th>Often 4</th>
<th>Sometimes 3</th>
<th>Rarely 2</th>
<th>Never 1</th>
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<tbody>
<tr>
<td>1. Visual Strategies</td>
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<td>2. Prompting</td>
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<td>3. Picture Exchange Communication System (PECS)</td>
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<td>4. Applied Behavior Analysis</td>
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<td>5. Discrete Trial Instruction</td>
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<td>6. Task Analysis</td>
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<td>7. Peer Tutoring</td>
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<td>8. Motivation and Reward</td>
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<td>9. Video Modeling</td>
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<td>10. Shaping</td>
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<td>11. Sensory Integration</td>
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<td>12. Social Stories</td>
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<td>13. Incidental Teaching</td>
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<td>14. Music Therapy</td>
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<td>15. TEACCH</td>
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<td>16. Floor Time</td>
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<td>17. Holding Therapy</td>
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APPENDIX D

INTERVIEW PROTOCOL
Section III: Interview Protocol

I will be asking your opinion and experiences about teaching students with autism in an inclusive classroom. Please feel free to expand on your answers in any way you choose.

1. What are the definitions or characteristics of children with autism that you understand?
2. How do we determine if a child has autism?
3. What kind of behaviors do students with autism have in the classroom?
4. What is your relationship with the child with autism?
5. What strategies do teachers use most to teach students with autism in inclusive classrooms?
6. What are your tools to help your work?
7. What would you like to suggest about the process of teaching students with autism?
8. How does the child interact after you use your strategies?
9. What curricular modifications do you use with the child?
10. How do you collaborate with the child’s parents?
11. What are the criteria to serve a family?
12. How do you collaborate with medical personnel?
13. What concerns do you have about teaching students with autism?
14. What are appropriate methodologies for teaching curriculum for students with autism?
15. What are the elements to provide a teaching curriculum for students with autism in inclusive classrooms?
16. How do you teach students with autism to improve their learning skills in inclusive classrooms?
17. What problems of teaching curriculum for students with autism in inclusive classrooms?
18. How do you manage the problem of teaching students with autism?
19. How do you assess your students with autism in the curriculum?
20. What are the most important factors for teaching students with autism?
21. What can you do to be more effective in this curriculum?

22. How do you provide quality curriculum goals?

23. Overall, what do you think about the curriculum?

24. What are general tips that you have found useful?

25. Does the organization have any materials/curriculum/sources of information that they often rely on?

26. What is the process to develop a plan for the teaching curriculum for students with autism?

27. Which teacher characteristics have proved successful for your children with autism?

28. Discuss teacher reactions to having a child with autism within the classroom?

29. Discuss reactions of classmates and their parents to having a child with autism within the classroom?
APPENDIX E

OBSERVATION FORM
# Observation Form

**Definitely observed = 5**  
**Possibly observed = 4**  
**Uncertain if activity is observed = 3**  
**Mostly likely not observed = 2**  
**Definitely not observed = 1**

<table>
<thead>
<tr>
<th>Observation</th>
<th>5</th>
<th>4</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>1. The use of specialized curricula and strategies to teach social skills</td>
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<tr>
<td>2. The use of physical classroom organizers such as color-coded materials,</td>
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<td>finished boxes, and kitchen timers</td>
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<td>3. The use of a variety of instructional groupings, including individual,</td>
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<td>small, and large groups</td>
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<td>4. Providing a structured classroom environment and consistent, predictable</td>
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<td>routines (including structured approaches to task presentation, and</td>
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<td>clear guidelines for expectations of appropriate and inappropriate</td>
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<td>behavior)</td>
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<td>5. The use of punishment and/or aversive stimuli in order to decrease</td>
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<td>inappropriate behaviors</td>
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<td>6. The use of direct instruction (emphasizing the use of specified teacher</td>
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<td>directions, programmed instruction and presentation of materials,</td>
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<td>examples, and prompts, the use of reinforcement and mastery learning</td>
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<td>principles, regular and direct assessment, and teaching prerequisite</td>
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<td>skills)</td>
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<td>7. The use of adult-directed strategies (procedures in which adults</td>
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<td>systematically prompt or model) to ensure appropriate student responses</td>
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<td>8. The use of visual activity schedules, visual supports, and other visual</td>
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<td>systems in order to prompt or remind students to organize work and</td>
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<td>material and/or engage in appropriate behavior or activities</td>
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<td>9. The use of specialized curricula and strategies to teach communication</td>
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<td>skills (including script fading, written social phrases, functional</td>
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<td>communication training, and teaching spontaneous self-imitated</td>
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<td>responses/verbal imitations)</td>
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<td>10. The use of low student-to-teacher ratios (less than or equal to</td>
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<td>three students to every adult) and sufficient adult attention in</td>
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<td>one-on-one and small group instruction in order to meet</td>
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<td>individualized instructional goals</td>
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<td>Observation</td>
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<td>11. The use of technology, including computers, handheld electronic devices, and other augmentative communication devices</td>
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<td>12. The use of pictorial storyboard simulations and/or social stories to increase desired behaviors</td>
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<td>13. Active engagement of children throughout the day in intensive instructional programming, with repeated planned teaching opportunities and frequent opportunities to practices new skills</td>
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<td>14. The use of cooperative learning (small groups of students working together to maximize their own and one another's learning)</td>
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<td>15. The use of differential reinforcement strategies (systematically reinforcing only alternative and/or incompatible target behaviors) in order to decrease or eliminate inappropriate behaviors</td>
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<td>16. The use of intensive instructional trials (teaching targeted skills within a highly structured, one-to-one format, providing clear and concise instructions and systematic reinforcement for correct responses)</td>
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<td>17. The systematic use of prompting, shaping, chaining and fading to teach new skills</td>
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<tr>
<td>18. The use of modeling (including videotape modeling of self, peer, and adults) in order to teach imitation of new skills</td>
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<td>19. The use of visually-based augmentative communication systems, such as picture exchange systems and/or communicating with pictures</td>
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<td>20. The use of extinction (withdrawing or withholding attention or reinforcement in order to decrease inappropriate behaviors)</td>
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<td>21. The use of interventions that target sensory deficits in the areas of the olfactory, gustatory, tactile, vestibular, proprioceptive, and auditory systems as well as vision (sensory integration)</td>
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<td>22. The use of art and music to teach individualized skills</td>
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<td>23. Establishing secure, caring teacher-student relationships, and engaging children in active, positive interactions with adult</td>
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REFERENCES


The Thai National Education Act, Kingdom of Thailand 1999.


