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The TEACCH Approach and the Clinical Psychology Program at Kyushu University Integrating Principles and Practices

Steven E. Kroupa*

The Center for Clinical Psychology and Human Development at Kyushu University provides graduate and undergraduate training in individual and group therapy with children and adolescents with developmental and adjustment disorders. Many of these children participate in a year-long, social skills group ("Moku-Moku group") that is conducted by university students and supervised by Dr. Koichi Toya, who is Associate Professor in the Department of Human-Environment Studies at Kyushu University. The Visiting Research Professor is assigned as a consultant to the university students and participates in the planning, implementation, and review of the social skills groups. The Visiting Research Professor also attends a case conference once a week to advise students on the assessment, disposition, and treatment of individual cases referred to the Center.

The author of this paper held the position of Visiting Research Professor from July 1, 2009 through March 30, 2010. The author holds a Ph.D. in clinical psychology and has over 25 years experience working with children, adolescents, and adults in a variety of healthcare and educational settings. For the past 14 years he has served as the Clinical Director of the Fayetteville TEACCH Center in Fayetteville, North Carolina and as an Assistant Professor in the School of Medicine at the University of North Carolina at Chapel Hill. The TEACCH program is one of the oldest and best known programs for individuals with autism spectrum disorders in the United States and it has had a significant influence in shaping autism programs throughout the world. Early in its history the founder of TEACCH, Dr. Eric Schopler, and other TEACCH colleagues began collaborating with professionals and families in Japan around training and consultation using the TEACCH approach. The author's current year of professional leave from the University of North Carolina at Chapel Hill opened a new chapter on this collaboration with the stated mission of

> Conducting research in the application of the TEACCH approach with individuals with developmental disabilities. Specifically, the Visiting Professor will collaborate on research projects

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with faculty and graduate students at Kyushu University and other universities in Japan, work with graduate students on their clinical training, and lecture on clinical psychology, developmental disabilities, and the principles of the TEACCH approach.

This paper summarizes some of the author's main conclusions from this nearly year-long collaboration. It presents the author's perspective on the practice of clinical psychology and how aspects the TEACCH approach (see Mesibov, Shea, & Schopler, 2005, for further discussion of the approach) might be integrated into current practices at Kyushu University to enhance the education and training of students in the graduate and undergraduate programs. Specific topics to be discussed include

1. A broadened definition of the goals of independent functioning for individuals with developmental disorders;
2. Assessing the learning style and information processing strengths of each client;
3. Building on the strengths of the clinical psychology program at Kyushu University;
4. Considering a systems perspective in working with families and teachers;
5. Some specific suggestions for integrating structured interventions into the following components of individual and social group therapy:
    a. Transition times
    b. Semi-structured play
    c. Expressive communication
    d. Social skills
6. Incorporating strategies that promote stress coping and self-control.

Independence Redefined

Clinical Perspective

For many families dealing with the challenges of raising a child with developmental delays, fears that their children will not acquire skills or achieve a level of functioning that will allow them to be relatively self-sufficient, protect themselves from those who might mistreat or take advantage of them, and be integrated into society at-large can be overwhelming. Throughout TEACCH's collaboration with families over the years the emphasis on developing strategies that would promote a higher level of independent functioning in the individual—either by adapting aspects of the environment to compensate for the individual's deficits and symptoms or by teaching skills that could be self-initiated and performed in most typical settings—became a primary focus in the TEACCH approach. Although one concrete aspect of the TEACCH approach—structuring a child's workspace to promote independent work habits—may be the most universally recognized and imitated component of the TEACCH model called Structured Teaching, the concept of adapting the learning, living, and work environments to best suit the visual processing strengths that are characteristics of

many people with autism spectrum disorders has been largely responsible for a significant "paradigm shift" in how individuals with developmental disabilities can be more fully integrated into the communities in which they live.

However, as is the case with any conceptually complex and multifaceted treatment approach, many people who have been introduced to TEACCH tend to have a much more limited understanding of the overall approach. For some, what they see demonstrated—for example, the concrete use of specific techniques (using visual schedules and work baskets) — becomes their only association with the TEACCH approach without understanding the *purpose* of the strategies, the *context* within which they have been applied, or the *integrative process* that was used to generate the individualized strategies. This much more limited and narrow understanding of the TEACCH approach appears to be fairly widespread and is just not limited to those who have completed a cursory introduction to the TEACCH approach, but can also be heard espoused by some "experts" in the field of autism. The consequences of this misunderstanding of the TEACCH approach may be profound by reducing the overall effectiveness of the TEACCH approach when practiced by those with limited knowledge and training, by increasing the appeal of no more or less effective approaches, and by structurally limiting access to the TEACCH approach though reductions in funding or insurance reimbursements.

At the heart of this misunderstanding is a narrowing of the concept of "independence." To many observers of the TEACCH approach, independence is oftentimes dramatically increased in clients as they transition from one activity to another activity through the use of visual schedules, or as they sustain work performance through the creation of individual work stations that modify the physical structure of the area and incorporate a visual "listing" of the work that needs to be done along with a reinforcing incentive or predictable activity (referred to as "Work Systems" in the TEACCH model). What is missing in this narrow understanding of independence is how the TEACCH approach promotes an individual's ability to function more *independently* in "interpersonal" activities, such as those requiring communication and social skills. The perception of a field-wide absence of models that target the development of interpersonal skills more directly is evident in many of the recently proposed models of autism intervention, most notably the Picture Exchange Communication System (PECS) (Bondy & Frost); the Floortime/DIR model (Greenspan); the Relationship Developmental Intervention (RDI) model (Gutstein); the Social Communication, Emotional Regulation & Transactional Support (SCERTS) model (Prizant); and the Pivotal Response Training (PRT) model (Koegel & Koegel)—all of which include an emphasis on developing social and/or communication skills in the person with an autism spectrum disorder.

The term "independence" has always been a bit of a misnomer when it is used to describe the end goal for someone with an impairment, whether that impairment be something as common as needing corrective lenses or as dramatic as someone walking with an artificial leg. Independence does not mean that the individual does not need some external device (i.e., prosthesis) or strategy (e.g., picture instructions) to be

able to perform a skill, but that the individual is relatively independent of direct, *personal* prompting or assistance. For example, many people are very **dependent** on their eyeglasses and with them they can function **independently** in most environments, but without their eyeglasses they may need a great deal direct, personal prompting and support to do even the simplest of activities (e.g., traveling to a food store to make purchases). We typically describe people wearing corrective lenses as functioning independently in most contexts, without necessarily acknowledging how utterly dependent they actually are on their glasses. Achieving independent functioning in individuals with a significant disability is, therefore, generally more concerned with transferring a person's dependence from direct, personal assistance to a compensatory device (e.g., eyeglasses or a prosthetic limb) or strategies (e.g., a picture menu at a restaurant). This is especially the case when there is no "cure" for the disabling condition or when it is not possible to teach the individual skills that will effectively allow them to "recover" from their disability.

When the cure or recovery strategies are not available or effective, the TEACCH approach encourages a higher level of independence by finding useful alternatives—in the form of materials, devices, and strategies that can be easily used in a variety of settings—to a person's dependence on a personal assistant. This is especially the case when the demands of the tasks or activities exceed the learned skills and cognitive resources (e.g., attention, working memory, auditory comprehension, etc.) of the individual. The TEACCH approach promotes the use of these materials and strategies in *interpersonal* activities (e.g., communication and social interactions), as well as *individual* activities. For example, with any given person with an autism spectrum disorder the TEACCH approach may incorporate the kinds of modifications to the physical environment and a range of visual supports that might be initially designed for individual activities, into a program designed for developing skills and facilitating a higher level of functioning in interpersonal activities. The TEACCH approach also allows for the easy integration of other strategies and techniques (e.g., PECS, social narratives, structured play) into the specific treatment plan. In the same way that eyeglasses are prescribed individually to compensate for the structural deficits of a person's eyes and are designed to be easily accommodated into most environments, supports and interventions for the person with an autism spectrum disorder must be precisely and individually prescribed, and integrated into the person's varied environments.

Clinical Application

This expanded definition of independence is relevant to the training of the clinical psychology students at Kyushu University. The student therapists tend to rely mostly on direct, personal prompting and support when a child struggles to perform a skill in the Moku-Moku group or in an individual therapy session. Oftentimes, caring professionals or professionals-in-training are not even aware of the degree to which they may not take advantage of opportunities to foster independence when they instinctively step in to assist a struggling person with a disability. Sometimes it is helpful to have a colleague or another professional objectively point out examples of direct, personal assistance as they occur or to make and review a videotaped

session or interaction to raise one's awareness of the natural tendency to step in a help a child who is struggling to perform a skill.

Direct and personal assistance is certainly appropriate and helpful in many respects, but it might also be possible to integrate into the treatment plan other techniques that enhance the child's ability to perform a skill without the direct intervention by the student therapist. A primary benefit might be increasing the child's confidence in being able to use the skills supported in the therapy sessions in other settings when caretakers are not available to coach and intervene on behalf of the child.

Clinical Assessment of Information Processing Strengths and Learning Style

Clinical Perspective

At the most basic level there are two assessment processes that healthcare providers utilize to shape services to individuals with atypical development and problems with behavior. The first assessment process involves finding similar characteristics among a group of individuals that has been identified as atypical. This process is undertaken in the diagnostic evaluation and, where appropriate, concludes with the assignment of a diagnostic label. The second assessment process involves finding meaningful differences in how individuals function across a broad spectrum of developmental skills and behaviors. Because this second process tends to rely on somewhat more sophisticated models of biopsychosocial functioning and specialized techniques, the types of evaluations conducted are based upon the expertise of the one doing the evaluation (e.g., neuropsychologist, school psychologist, occupational therapist), the specific area of functioning being evaluated (e.g., cognitive abilities, academic performance), or by the purpose of the evaluation (e.g., psychoeducational or neuropsychological evaluation). The first process may be simplistically described as one which takes a broad view of the characteristics of a person's behavior, whereas the second process tends to be more deeply focused on specific skills and areas of functioning underlying the characteristics of the person's behavior. Together, both of these processes—understanding the breadth and depth of a person's behavior—fall under the more general category of clinical assessment.

The concept of "assessment" is also relevant in our everyday lives. It is simply a word that is used to describe our attempts to better understand ourselves, others, and our environments. For example, an owner of a restaurant assesses the variety and quality of the produce at the local market before deciding what to buy. A child assesses the appearance, smells, and textures of a new food before deciding whether or not to taste it. And parents assess the health and growth of their child before deciding whether or not to seek expert, professional advice. Clinical assessment is a highly specialized and disciplined example of what human beings do every day. In the United States the professional of clinical psychology developed out of scientific advances in creating new models for understanding human behavior, and in measuring the characteristics of functioning based upon these models. One founder of the TEACCH program, Eric Schopler, was a clinical psychologist and throughout its history, the program's services have been provided by or supervised by

licensed psychologists. Clinical assessment is central in the TEACCH approach.

The TEACCH program integrates both the common, everyday practice of assessment with the clinical practice of psychological assessment by collaborating with parents and other professionals in the evaluation of a child referred for services. Parents provide the intimate knowledge of their children from the earliest of histories and across many settings. Teachers provide a somewhat more object appraisal of a child's functioning in a specific context. And TEACCH professionals integrate all of this information, along with a disorder-informed (e.g., Childhood Autism Rating Scale) and trait-specific assessment of functioning (e.g., Psychoeducational Profile), to construct a detailed picture of the child's pattern of challenges and strengths that he experiences in the various settings in his life. A quality clinical assessment consists of at the least the following four factors: therapeutic context, organizing paradigms, assessment techniques, and individualized prescription for treatment.

Therapeutic context. The research literature on the efficacy of psychotherapy identifies two factors that determine whether or not psychotherapy is effective as a treatment for various psychological adjustment difficulties or mental disorders: *specific treatment effects* and *nonspecific treatment effects.* Specific treatment effects refer to the specific techniques or interventions being used as a treatment protocol. Nonspecific treatment effects refer to qualities of the person receiving treatment, of the person providing treatment, and of the relationship between the two of them. These factors reflect the intra- and interpersonal contexts within which the treatment takes place. Intrapersonal factors include the *worldviews* of the client and therapist (especially in terms of how each of them understands the nature of the client's difficulties) and the level of confidence that each has in the intervention strategies being used by the therapist to address the client's concerns. Interpersonal factors include the therapist establishing a foundation of rapport, trust, and empathy with the client in order to facilitate a greater degree of receptiveness on the part of the client to potentially constructive changes in behavior and/or perspective. Recent research findings in psychotherapy outcomes suggest that the quality of the therapeutic relationship is significantly more important in determining treatment outcome than is the specific technique or strategy employed by the therapist.

Clinical experience indicates that the same two factors—therapeutic alliance and specific techniques—are equally important in clinical assessment. A good assessment is therapeutic for the client and the client's family—not only in terms of providing relevant and useful *information*, but by helping the client and the client's family *integrate the assessment experience* in such a way as to better to prepare them to take further constructive actions to address the concerns that led them to seek professional help. The emerging literature on this integrative process (i.e., "diagnostic resolution") (e.g., Pianta & Marvin, 1992) suggests that the therapeutic context of the assessment is at least as important, if not more so, as are the specific techniques used and content or information obtained. In other words, how the family copes with the results of an assessment is as important as what the results say about the child.

Organizing paradigms. For many psychological practitioners, extensive clinical knowledge of,

and experience with specific diagnoses or domains of psychological functioning is a necessary precondition for a quality assessment. To some degree, knowing what to look for increases the likelihood that one will be more efficient, more systematic, and more precise in conducting a thorough assessment.

The field of assessment of autism spectrum disorders is rapidly moving into the realm of understanding the underlying information processing characteristics of individuals affected by the condition. The subspecialty of neuropsychological assessment is contributing more and more to our understanding of autistic process and to designing highly individualized treatment and teaching recommendations. The data from this type of assessment is especially convincing when paired with the visual images from functional MRI studies depicting differences in brain activity. It is no longer sufficient in pursuing best practices to administer an IQ test and to only consider any discrepancy in verbal versus nonverbal abilities in a discussion of individual differences. Working memory, sequential thinking, phonological processing, social reasoning, concept formation, cognitive flexibility are examples of specific areas of functioning that can be reliably and accurately assessed and the results can be integrated into a useful description of the client and into a treatment plan with meaningful recommendations.

The psychological and neuropsychological assessment of autism spectrum disorders is a rapidly changing area of clinical psychology. For example, a comprehensive textbook on the subject , *Assessment of Autism Spectrum Disorders,* was just recently published (Goldstein, Naglieri, & Ozonoff, 2009). Students and professionals-in-training who intend on working in this area will need to continue learning about new research findings and models for understanding and assessing the underlying information processing characteristics of individuals with various developmental disorders.

Assessment techniques. In the proper context assessment techniques are an essential part of any quality assessment. Assessment techniques are the "tools of the craft" of clinical psychology. As tools, psychological tests and techniques need to chosen both because of their appropriateness to the assessment purpose, but also because of the level of expertise and skills that the psychological examiner has developed over years of working with specific tests. In the same way that there is no one tool or technique that is used by all craftsmen to build fine furniture, there no one test or assessment technique that is used by all psychologists to get reliable and valid information about a client's level of functioning. Psychological assessment techniques are typically categorized into one of four types: behavior observations, interview, informal assessment, and formal (standardized, normed) tests. Clinical psychology training programs, such as the one at Kyushu University, cannot train a clinical psychology student in the use of every available test, but they can provide a solid foundation for evaluating available tests, for learning basic skills in using the different techniques, in communicating the results to families and other professionals, and in generating specific recommendations.

Individualized prescriptions for treatment. Researchers and practitioners have understood that not only do children with learning and other developmental disorders understand, think, learn, perform, and

behave differently than do typical children, but that these difference can also be found in the typically-developing population. Recognizing, assessing, and working with these individual differences is part of the blueprint for a 21st century educational system, and is central to approaches, such as TEACCH or Dr. Mel Levine's *All Kinds of Minds* program (Levine, 2003), that advocate individualized prescriptions for treatment and education of "special needs" children.

The available research on the information processing characteristics of young children with autism suggest that they tend to be stronger visual learners, prefer "hands-on" activities, rely on memorized skills and familiar routines to become meaningfully engaged in activities, need complex activities broken down and systematically taught and organized, and have somewhat idiosyncratic and narrowly defined interests that may serve as the only consistent source of reinforcement. Although each of these characteristics needs to be assessed individually, these general findings suggest that a treatment or educational plan for a young child with autism is likely to require specialized approaches and strategies to be optimally effective.

The first challenge for a parent, teacher, or professional working with a child with a developmental disorder is to recognize the need to assess the child's individual learning strengths and weaknesses. The second challenge seems to be to have a working knowledge of a range of conventional and alternative strategies that can maximize the child's ability to learn and perform. Certainly, both of these challenges are being addressed in the Clinical Psychology program at Kyushu University and there may be additional aspects of current best practices that could be further integrated into the coursework and training of the students.

Strengths of Person-Centered Approach and the Moku-Moku Groups

The profession of clinical psychology can trace its origins in the United States back to the early research in perception and experimental psychology, and to the development and use of psychological tests in the mass screening of individuals drafted and enlisted into service during the Second World War. Both of these historical antecedents shaped the duo-identity of the modern practicing psychologist as being both dedicated to scientific inquiry and validation, and to application as interventions in the broader educational and healthcare environments. The predominant models of clinical training—the scientist/practitioner and the scholar/practitioner—embody both qualities. The most recent reiteration of this duality—scientific research and clinical judgment—is expressed in the prevailing definitions of what constitutes an evidence-base in the best practice in clinical care.

Currently, any discussion of best practices in psychological services in the United States increasingly revolves around arriving at a consensus definition of what constitutes adequate evidence for the effectiveness of any specific technique or strategy. Indeed, the vast majority of empirical research into behavioral and psychological interventions is focused on defining, measuring, and evaluating specific treatments and treatment protocols. In addition, there is general agreement that other factors—nonspecific treatment

effects—also play a role in determining a desirable treatment outcome. These factors are more difficult to define, measure, and evaluate, but they are typically conceptualized in terms of the qualities or characteristics of the intra- and interpersonal contexts within which the specific treatments are applied. Establishing rapport, a therapeutic alliance, or unconditional positive regard; a shared world view and shared values; and confidence of the provider and in the provider's treatment approach are oftentimes listed as the foundation for positive outcomes that seem to be independent of specific techniques or philosophies. Indeed, meta-analytic studies of the effectiveness of psychotherapy generally indicate that these qualities of the therapist/client relationship account for much more of the measured positive outcomes than do the specific techniques employed (e.g., Norcross, 2002).

One of the first to articulate and research qualities of the therapist and therapeutic relationship that influence positive outcomes was Carl Rogers, whose own approach has been called client-centered or person-centered (Rogers, 1980). Roger's approach focuses on the therapist creating the conditions whereby the client's innate drive for growth and meaning can become activated to a much greater degree, along with all of the resources that the individual has for coping with adversity and for solving problems in living. This approach is more broadly categorized as humanistic.

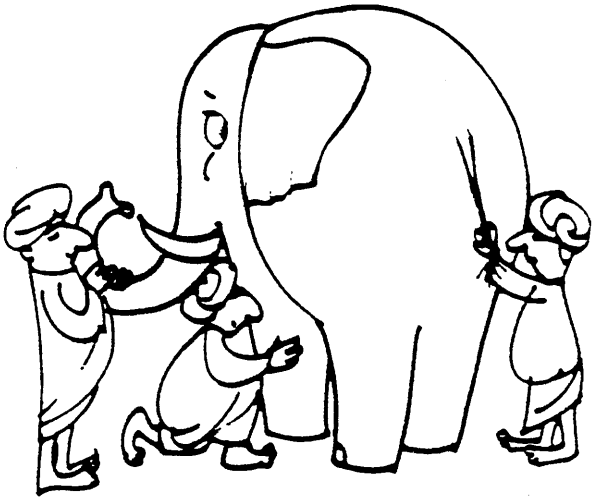
This inherent valuing of and respect for each person in therapy appears to have been cultivated in the clinical psychology and general psychology students who provide the social skills and communication training in the Moku-Moku groups. Accepting the individual, using noncoercive techniques, and a focus on building confidence and positive experiences is clearly evident in the general demeanor of the students. Although the actual therapeutic techniques are fairly conventional and the mode of delivery tends to be direct, interpersonal, and verbal; a strength of the Kyushu University program is its emphasis on factors associated with nonspecific treatment effects, such as the creation of a therapeutic milieu and enhancing the quality of the therapist-client relationship.

Systems Theory

Clinical Perspective

Many traditions in Asian cultures have passed on different versions of the parable of the blind men and the elephant, which, broadly speaking, describes the relationship between perspective and reality. For Western cultures John Godfrey Saxe's poem, *The Blind Men and the Elephant* (see Appendix A), illustrates this important truth about how we understand our world: *The accuracy of what we know increases with our ability to integrate different perspectives.* For psychologists who try to help resolve "problems in living" there is a corollary: *The better we understand a problem, the more effective are our solutions.* Therefore, it would seem to follow that one important goal in any training program for psychologists would be to teach students to be able to view a presenting problem from multiple perspectives in order to enhance their ability to address the concerns of each client that they meet. This priority is identified in many psychological circles through the formal adoption of the biopsychosocial model of understanding any phenomenon involving

people, whether it is cancer, economic recession, health insurance reform, or terrorism. The causes and our responses to any of these phenomena can be more thoroughly understood by a systematic investigation of the numerous biological, psychological, and social/cultural factors associated with any specific human experience.



Further, given the essential interdependence of family members, family systems perspectives are especially helpful in perceiving and understanding the challenges facing many young clients, and, when integrated with other perspectives, provide additional options to a therapist for facilitating a positive change. Family systems perspectives are derived from the more general systems theory, which assumes the interdependence of all of the elements of a shared ecosystem (cf. Truscott, 2010). This interdependence requires a nonlinear understanding of cause-and-effect, that is, each event (i.e., effect) is determined by multiple causes and, in turn, each event (i.e., cause) affects—directly or indirectly—all other elements in the system. When this systems perspective is integrated into the biopsychosocial model an extremely complex and robust understanding of the human condition results.

Individuals tend to thrive and families tend to function best when basic health needs and safety are provided, when there is a strong foundation of love and acceptance for all members, when discipline is clear and consistent, when networks of affiliation extend beyond the family, and when individual interests and meaningful activities can be shared and supported. Psychosocial treatments tend to be most effective with families when there is a shared (and developmentally appropriate) understanding of the challenges facing the families, when the families have confidence in the strategies for resolving the problems, when there are regular opportunities for open feedback and discussion, and when the families have confidence in their own abilities to make constructive change. One goal of a therapist in forming an alliance with the family to address their concerns is to look for opportunities to foster each of these aspects of healthy family functioning. This is somewhat easier to accomplish when both parents are actively engaged in the treatment,

but some aspects can still be improved when only part of the family is seen regularly.

For students in the clinical psychology program at Kyushu University, numerous educational, practical, and cultural barriers appear to be in the way of working directly with the entire family. First, some students may be very familiar with systems theory when it comes to working with families, whereas other students might not be so familiar. Consequently, the usefulness of some family systems perspectives and intervention strategies may not be readily acknowledge until the student develops a deeper understanding of and appreciation for these perspectives. It should be pointed out that family systems therapists who work with families where there is a child with a developmental disability do not view the developmental disorder as a "symptom" of a dysfunctional family, but do recognize that how a family copes with stress of having a child with a disability can affect the child's symptoms and the overall health of the family.

Secondly, there are practical issues in terms of the time and energy of the therapist, the availability of all family members, and any institutional requirements or ethical considerations that might limit family participation. And finally, there appear to be cultural sensitivities to individual and family privacy, more clearly defined gender roles, and an emphasis on promoting social harmony that could present some unique challenges to family work in Japan as compared to some other countries.

Having said this there may be some aspects of family systems perspectives that might be more easily integrated into the work the clinical students are doing within Japanese culture. Areas of possible further integration are described in the following sections.

Clear communications with fathers. Over the past few decades in the United States the roles of men and women in society, and mothers and fathers in families, have been shifting away from a concentrated (and some would say, rigid) identification of stereotypic traits with a particular gender (e.g., men "provide for and protect," and women "nest and nurture") to greater flexibility and freedom in forming personal and professional identities that integrate positive traits from both gender's traditional roles. Men have taken on more household and childcare responsibilities, and women have achieved higher levels of professional competence and income generation. A similar trend seems to be occurring in Japanese society, especially in the changing roles of fathers being more involved in childcare.

These changes in the expected roles and responsibilities of men and women in American culture are very recent and, consequently, they are easily evident in some aspects of the public discourse, but not so apparent in other aspects. For example, as the Director of the Fayetteville TEACCH Center this author has frequently been the only male among a staff of 8-10 professionals. And although the official language of all of the center's documents and correspondence is inclusive of both mothers and fathers, there is a tendency for the female staff to exclude consideration of the fathers when it comes to scheduling appointments for the children or in general discussion about child care responsibilities, even in intact families with a clearly involved father. Some fathers, in spite of their interest in their children's healthcare and their availability for appointments, may not actively pursue involvement in appointments for a number of reasons, such as a lack

of confidence in understanding their child's difficulties, in their parenting skills, and in knowing how to interact with service agencies. Anecdotal information suggests that when father participation is clearly and directly valued and invited, a larger percentage of fathers accompany mothers to their children's appointments. Although there may not be the same general level of employer support for fathers to miss work to attend to important family matters in Japan, it may still be helpful for therapists of both genders to actively and supportively invite both parents to meetings or to use language which includes both parents when discussing parenting and family responsibilities.

Pursue multiple perspectives. The recipe for success for any "team" whether it is in business, in sports, or in a family is the same: having a shared perspective on the purpose, the values, and process of the group. For families with a child with a developmental disorder, a shared perspective and shared commitment for healthy functioning for each member is a significant challenge. The evolving literature on diagnostic resolution—a parent's ability to accept the diagnosis in such a way as to be fully mobilized in pursuing available resources for the child—is a case in point. The children of parents who have resolved the diagnosis tend to have better outcomes.

The family systems literature suggests that a shared perspective by all family members should never be assumed. It, therefore, becomes important to presume that each member of the family has his or her own perspective on how the family functions and the challenges it faces, and giving voice to these different, and sometimes conflicting, perspectives gives the best opportunity for creating a more cohesive and more dedicated family "team." Some of the methods and techniques that might allow student therapists to better understand the perspectives of family members are discussed in the following sections.

Face-to-face, questionnaires, phone/email, extended family. Assessment is the art and science of obtaining useful information. In this Information Age in which we live there seems to be no shortage of the methods and means of obtaining information. The challenge becomes selecting the most convenient and most effective method for each family that has a member in treatment. For most therapists face-to-face interviews is the most effective method, but not the most convenient for all family members. Phone contacts and, in some cases, video contacts can be arranged for some family members who were not able to attend an interview meeting. Email correspondence has the advantage of being more convenient for some people with busy schedules and provides an alternative (visual) means of communicating. Both structured and open-ended questionnaires can usually be developed relatively easily to get relevant and timely information from parents and teachers. Any finally with families with close extended family involvement, parents can be encourage to invite extended family members or appointments or to facilitate communication between the providers and the family members.

The empty chair technique. This is as much an actual interviewing/treatment technique as it is a visual pneumonic to remind a therapist to be ever mindful of the entire constellation of family members and perspectives. The technique involves physically placing an empty chair in the room for every member of the

family who is not present at the time of the interview or treatment. The empty chair communicates quite concretely that, although not present to share their perspective, each person has a unique perspective that needs to be voiced and considered in any decisions involving the family.

Individual and Group Therapy

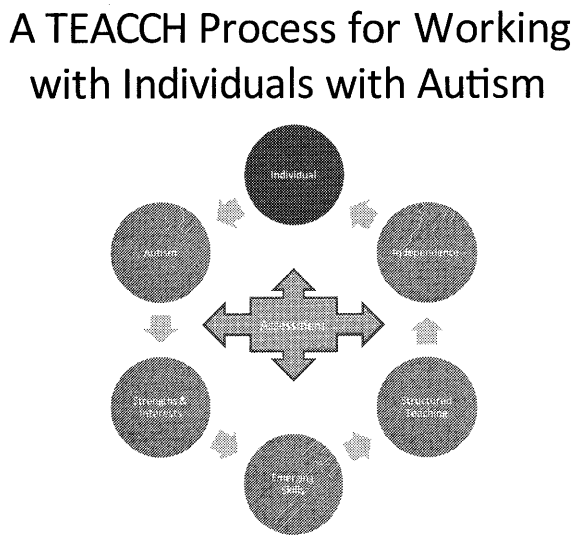
Clinical Perspective

Children are referred to the Center for Clinical Psychology and Human Development because their parents are concerned that their children are not developing skills or behaving at levels consistent with their chronological age. Some children have already been formally diagnosed with a developmental disorder or disability, whereas others have not. Regardless of whether or not the child has received a formal diagnosis, by the time that the child enters school most parents are keenly aware that their children are struggling to keep up with other children of the same age in one or more areas.

Perhaps the most widely used definition of "disability" in the United States is contained within federal legislation that protects the rights of disabled individuals. According to the most recent version of the Americans with Disability Act (ADA, 2008) a disability is a "physical or mental impairment that substantially limits one or more major life activities." Implied in this definition is the recognition that the conventional ways that a society might modify an environment (e.g., construct steps that maximize safety and minimize effort), for example, or develop skills that allow for greater independence (e.g., public school curriculum) are, by themselves, insufficient in minimizing the relative impact of the disabling condition. However, with advances in knowledge and technology, much more specialized or *structured* approaches to modifying the environment (e.g., prosthetic limb for an amputee) or developing skills (e.g., special education) can greatly enhance the individual's overall level of independence and quality of life. Optimal adaptability is typically achieved when the specialized approaches take into account relevant characteristics of the individual and of the context in which the life activity is performed. The pursuit of optimal adaptability for the person with an autism spectrum disorder is central to the TEACCH approach, and is the basis for the strategies and techniques that are known as Structured Teaching.

The model of the TEACCH approach to autism spectrum disorders as conceptualized by this author builds on the best available research and expert clinical consensus of what constitutes best practices. Briefly, the model (illustrated below) begins with the assumption that targeted interventions that are based in an individualized assessment maximize positive outcomes and minimize adverse side effects. An individualized assessment begins with a sophisticated understanding of both the core and associated features of autism spectrum disorders, and the degree to which these features are impacting each individual. In addition, a detailed and specific understanding of the individual's information processing strengths and learning style, of factors in the environment that are intrinsically reinforcing to the individual (i.e., interests), and of the individual's emerging developmental skills, increase the likelihood of developing a treatment protocol that is

efficient, motivating, and successful. Prioritizing strategies that enhance the long-term potential for independent functioning in both individual and interpersonal activities, and that enhance the quality of life (broadly defined) completes the model. In the same way that an individual with a vision impairment needs a eyeglass prescription that is specific to his needs and that can be easily worn (i.e., accommodated) in most environments, specialized and structured interventions for a person with an autism spectrum disorder need to be similarly individualized and blended into the various settings of the person's life.



The primary goals of the individual and group therapies offered by the Center for Clinical Psychology and Human Development are to promote the learning and development of each child, and each family's capacity for providing optimal environments for the child at home, at school, and in the community. The remainder of this section describes the author's observations of some aspects of individual therapy, or specific activities during the Moku-Moku groups that were especially challenging for some of the children. A brief clinical perspective on the presumed underlying reasons for some of the resulting inappropriate behaviors, with a brief description of some additional strategies that have proven to be helpful with the kinds of social, communication, and behavioral difficulties typical of many children with autism spectrum disorders follows. Specific suggestion for how some of these strategies could be integrated into individual therapy or the Moku-Moku group to enhance the child's confidence in practicing the targeted skill in the session and increasing the likelihood that the new skill might be used in settings outside of the Moku-Moku group are also presented.

Transitions

Although problem behaviors did not typically disrupt the Moku-Moku groups or escalate to the point that they were difficult to manage, they did tend to occur on a regular basis and they occurred most often during the less structured times of the group (e.g., free play, transition times) when the child was unsure

what to do, when the child seemed to lack confidence in his or her skills for the activity, or when the child appeared to have little interest in the activity. These situations seemed to be especially challenging for the children who had or were suspected of having an autism spectrum disorder (especially if it was combined with prominent features of an attention-deficit/hyperactivity disorder). In general, the student therapists did a very good job of redirecting the children who were experiencing difficulties, mostly by direct (one-on-one or two-on-one) verbal and gentle physical prompting.

For those children who persisted in having difficulties over the course of many group sessions (in spite of numerous and repeated verbal and physical prompts), some additional strategies described here could prove useful. Although these strategies are described separately they are frequently used in combination.

Social narratives. There is both clinical and research evidence that many children with autism spectrum disorders have difficulty perceiving social cues for appropriate behavior and have difficulty understanding the rationale for some social expectations. Therefore, one of the first interventions that can be used when a child is experiencing behavior problems is an educational one. Social narratives are examples of an educational approach that have been helpful to many children with autism spectrum disorders. A much more thorough description of social narratives (i.e., Social Stories) can be found in the work of Carol Gray (see http://thegraycenter.org/).

Case illustration: A sample social narrative that could be used with a child the author observed having difficulty during the transition from free play to the initial small group activity in the Moku-Moku group is as follows:

Changes

Moku-Moku group is a time for having fun with friends and a time for listening to the teachers. Sometimes I don't want to stop playing and I don't want to listen to the teachers. My teachers are here to help me learn to cooperate with others. Teachers expect me to listen to them and to cooperate. If I have trouble listening and cooperating, then my teachers will have to help me and there might be less time to play. When I cooperate and listed to the teachers, I will please my teachers. When I cooperate and listen to the teachers, the other children will want to play with me and my parents will be proud of me. I am going to pay attention to the teachers and learn to cooperate so that I can be successful and have fun at Moku-Moku group!

Therapist monitoring. Paying attention to a problem is one of the first and least intrusive ways of changing an inappropriate behavior. This approach can be especially effective if the therapist has established a therapeutic alliance with the child and the child views the monitoring similar to that of a supportive "coach" watching from the sidelines and with the intention of helping the child be successful. The therapist/coach will have to use his or her knowledge of the child to determine when and how feedback should be given to the child.

Case illustration: For one child the author observed having difficulty in the Moku-Moku group, arranging to give the child feedback every one to two minutes would have resulted in about a three-to-one ratio of positive comments to negative (or encouragement-to-do-better) comments—a ratio which is likely to

increase the child's confidence and motivation for following instructions.

Visual prompts. Many children on the autism spectrum are much more attentive to what they see versus what they hear. For these children, more progress can be made by the child in performing a desired behavior, independent of one-on-one assistance, by providing accessible, clear, and meaningful visual reminders.

Case illustration: For one child in the Moku-Moku group observed having difficulty sharing the ball in a dodge ball game, it might be helpful to make a colorful signing showing a ball being passed between two hands to serve as a positive, visual reminder of an action the can do during dodge ball game that will increase the likelihood that the other children will want to play with him. Structuring the environment with these kinds of visual prompts is a little more challenging in a large room during free play. Initially, it might be helpful for the therapist to wear the visual reminder on his or her shirt and remain prominently in the child's field of vision as the child moves about the room. If the child needs an additional cue to look at the reminder on the therapist's shirt, the therapist could blow a whistle (not too loud!) or use some other fun device to get the child's attention. The visual reminder might eventually be transferred to a wall or support column and reduced in size, and still be effective.

More frequent and more potent reinforcement. This is a common and very effective strategy for some children who are having difficulty demonstrating appropriate (i.e., prosocial) behaviors, especially with repeated verbal reminders by an adult (which are likely to be perceived by the child as "nagging) have not been effective. There is some research evidence to suggest that some children with developmental disorders have difficulty maintaining an optimal state of brain arousal, which may be why these children seem to crave activity, novelty, and excitement. For these children, with presumably less mature brains, the therapist may have to generate some additional motivation with extrinsic rewards, and these rewards may have to be accessible to the child on a much more frequent basis. For very challenged children the rewards might have to be immediate (e.g., a small snack or a sticker of a favorite cartoon character). For other children the reward can be a token that can be exchanged for something of value to the child at a later point (e.g., 5 extra minutes of play or a small toy or snack).

Case illustration. The authors recall one child with autism spectrum disorder and mental retardation with whom he has worked in the past who became motivated to decrease her aggressive behaviors during the session by earning little beads. The beads were small enough that they could be given out frequently following periods of appropriate behavior. Collecting the beads was very motivating for this girl. At the end of the session, if she had earned enough beads she could have a few minutes to make a small necklace or bracelet with the beads. Of course, social reinforcement (i.e., praise) and statements emphasizing the child's competence in demonstrating appropriate behaviors were also given at the time of the tangible rewards.

Self monitoring. Social psychologist, Albert Bandura, proposed that strategies that increase the child's sense of control and competence (self-efficacy) are inherently reinforcing and are likely to result in

skills that generalize across various settings. Setting up the environment and teaching the child to monitor his or her own behavior (and possibly reinforcing his or her behavior when successful) moves the child another step closer to independence in the new skill and enhances the child's confidence.

Case illustration. For the child who needed to learn to share the dodge ball with others a system could be put in place for him to place an additional dodge ball in a basket after every example of his sharing the dodge ball in play with another child. The child can then choose to put one or more of the balls from his basket in play when he wants. The child's sharing of the ball becomes reinforced by giving him extra balls to use himself.

Independence. Behavior therapists use the terms generalization and maintenance to describe a new skill or behavior that has been learned by a child and can be performed more or less independently across many settings. Teaching a child to function in the world without adult assistance or coaching is the goal of every parent, of every teacher, and of every therapist. This is certainly the goals of every student therapist in the Moku-Moku group, but knowing how to move each child along for each targeted skill or behavior requires special knowledge and skills when working with children who learn differently. It also requires awareness of ways in which we, as therapists, might help children who are challenged too much, when they are actually ready—with proper encouragement, teaching, and environmental supports—to move to a higher level of independence for a given skill or behavior. Exchanging feedback with a co-therapist or watching video of a session are useful ways to analyze the direct help that you might be giving to a child and to consider strategies to help the child learn to function adaptively without your direct help.

Case illustration. The author worked with a young boy with autism spectrum disorder and mental retardation who would stand at his visual schedule and wait for the teacher to hand him the next schedule card. Because he understood the picture cards his teacher felt he was using it independently. It was then suggested that she not hand the boy the card, and the boy stood there appearing confused and passive. After a couple of minutes of inactivity and several more similar examples during the day, the teacher became convinced of the need to teach the child to interact with his schedule confidently and without expecting the teacher to hand him the card. This was accomplished fairly quickly and the teacher observed his increased confidence and independence with using his schedule.

Semi-Structured Play

One of the defining characteristics of autism spectrum disorders is a pattern of restricted interests and repetitive behaviors. A frequently associated, and likely related, feature is a lack of imaginative play skills. Many children with autism spectrum disorder do not engage in age-appropriate pretend play with toys, other household items, and with peers. Play, in general, and imaginative play, in particular, is believed to be the process through which typically developing children acquire the skills necessary for normal psychological and motor functioning. In other words, play is to psychological health and maturity as food is to physical health and maturity. Many child development experts believe that any impairment in the child's ability to

engage in age-appropriate play may have potentially adverse consequences for any or all aspects of a child's development. Play therapy as a technique was initially developed to help presumably neurologically-intact children cope more effectively with psychologically stressful and traumatic experiences. An ability to form an emotional attachment to a therapist, to communicate verbally and nonverbally, and to demonstrate the potential to develop insight into oneself and one's history were generally considered to be prerequisite conditions for success. For these reasons the technique has had mixed results when used with many children with autism spectrum disorder, and therapies that targeted other deficits in behavior, communication, and social skills were prioritized. However, some recent research has suggested that by teaching play skills in children with autism spectrum disorder, significant gains in cognitive functioning, communication, and social skills may result. There appear to be two general, and complementary, approaches to teaching play skills in children with autism spectrum disorder—therapist directed play and child directed play.

In therapist directed play the therapist or teacher or parent teaches play skills similar to how he or she may teach any other skill or behavior. The context is usually the same one-to-one or small group setting as other lessons in the child's day. The child's unique pattern of learning strengths and interests are incorporated into the lesson play, and teaching strategies and any adaptations to the learning routines (e.g., individualized visual schedule, work system) or environment (e.g., reduced distractions) are maintained to initiate, sustain, and complete the lesson. Teaching goals can target both individual leisure play activities and social play activities. In addition, tasks materials and activities can be adapted to enhance learning and independent performance.

In contrast, child directed play activities typically occur in a more natural play setting and with a greater degree of flexibility and spontaneity. As the name implies the therapist attempts to engage the child in play activities that the child has already initiated. Depending upon the level of comfort that the child has with the therapist, the therapists looks for opportunities to teach new ways to play with materials, to expand the child's interests in play activities, and to promote the integration of a number of developmental skills (e.g., nonverbal problem-solving, communication, social, self-control) during the activity.

In the same way that most children learn in a variety of ways, most children with autism spectrum disorders can learn to play using a number of different techniques and strategies. Both a therapist directed approach and a child directed approach can be effective and used conjointly.

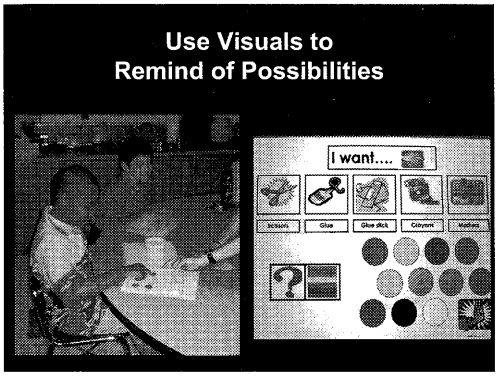
Expressive Communication

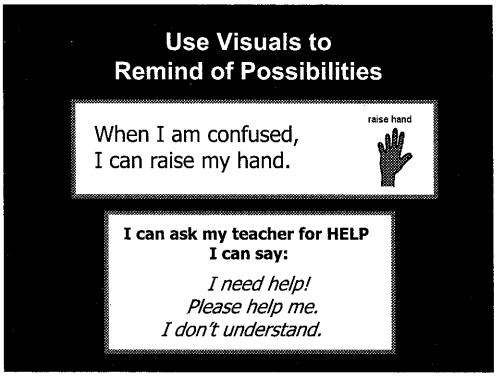
Activities and exercises to help the children develop verbal expressive skills were frequently incorporated into the session structure of the weekly Moku-Moku groups. This was clearly an area of difficulty for many of the children and was a concern for many of the mothers of these children. Most of the children in the groups had well-developed verbal abilities, in general, but many of them experienced specific challenges in pragmatic communication skills, especially in the areas of initiating communications, maintaining and regulating conversations, and being flexible and appropriate in communication topics.

The student therapists were very supportive of the children to express themselves verbally by providing a positive atmosphere of acceptance and encouragement, by modeling good verbal communications (including role plays), by reviewing the exercises, and through additional verbal prompts and cues, when necessary. In many cases, children were given time and support to prepare their responses with direct assistance from the student therapist team and to write down their comments.

For some children adding visual structure or communication "scaffolding" to the expressive communication exercises may have allowed the children to perform at a slightly higher level of independence in both the planned activities and the less structured times. These strategies could be easily incorporated into the structure of the various Moku-Moku group communication exercises. In addition to promoting a higher level of performance without direct, interpersonal prompting, they might also be easily blended into a variety of other contexts in the child's life and promote the generalization of the communication skill. With practice and the confidence that would accompany success, it is anticipated that many of these skills could be structured internally (i.e., learned) and the need for these kinds of supports could be lessened. The most common of these communication scaffolds include visual reminders, conversation scripts, and topic cards.

Visual reminders. For many children with communication difficulties there seems to be some difficulty in easily and quickly finding the appropriate words to initiate a request or make a comment to another person, or in exercising appropriate judgment about how and when to initiate a conversation. Anxiety fueled and exacerbated by this lack of confidence and increased social uncertainty can make it even more difficult for the child to initiate with others. A careful assessment can identify the situations in which the child is likely to have a greater need or desire to initiate a communication with others and can provide some insight into the underlying information processing difficulties that the child has that may adversely affect his or her ability to communicate. In many cases, providing the child with visual reminders of what to say and do in specific situations can enhance the appearance of spontaneity and independence of some expressive communications. Below are examples of two kinds of visual reminders that were developed and successfully implemented with two children with communication difficulties.





Conversation scripts. Maintaining and regulating a conversation is a complex communication and social behavior, which is almost always seen as a weakness in children with pragmatic communication disorders (including autism spectrum disorders). When visual reminders are useful in helping a child initiate a requests or other communication, conversation scripts can be useful in supporting a child to engage in a more reciprocal conversation with another person. Initially, these conversation scripts may need to be written and practiced for a specific context, but, for many children, the script can be quickly memorized by the child and used in a variety of settings. Eventually, a repertoire of possible variations in the script can also be introduced to the child and internalized, and the child's ability to engage in reciprocal conversations becomes more flexible and fluid.

Following is an example of a communication script that could be used with a child who has difficulty introducing himself to new people in the Moku-Moku group. Role playing with multiple video review can also help the child more quickly and more confidently use the script, which will need to be immediately accessible to the child (e.g., written on a note card that the child keeps with him while he is learning the script and in new situations when the script could be relevant).

Things to Say When Meeting a New Person

Comments	*Questions*
1. Koneichiwa. My name is _____.	1. What is your name?
2. I like to play video games.	2. What do you like to play?
3. We can play dodge ball at Moku-Moku group.	3. Do you want to play with me?

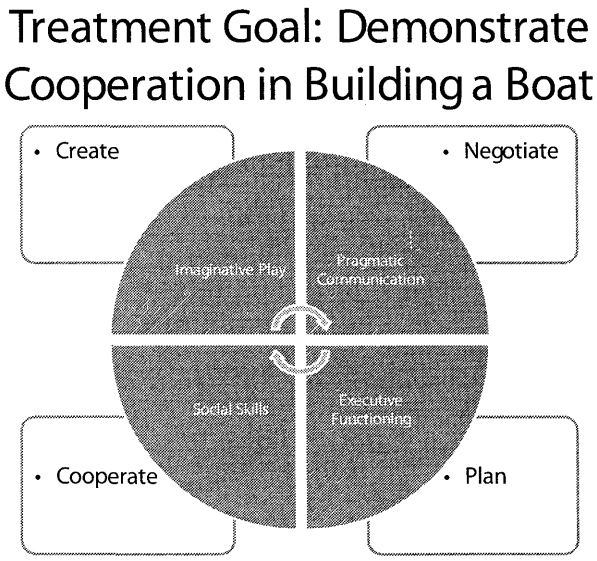
Topic cards. Some children with pragmatic communication difficulties do not express themselves because they do not know what to talk about. Other children lack reciprocity because of obsessive interests in a narrow range of topics. Still other children make inappropriate comments because of immature social judgment. Providing the child with visual reminders of various topics that would be appropriate to the situation and having the child practice using the visual reminders has been used effectively to address all of these difficulties in expressive communication. If the child is interested in the topic then it might not be necessary to provide any other support for the child, but if the child is only minimally interested in the topic then it may be helpful to provide a list of possible questions or comments on the card that would be appropriate for the specific topic (i.e., conversation scripts).

Social Skills

In the TEACCH model social skills groups serve two important functions: to provide direct teaching of, and individualized supports for social and communication skills; and to provide an accepting and nurturing environment in which to enjoy a broad range of social activities. Obviously, these two functions complement each other and both can easily be addressed in the same session plan. These two goals also seem to be central

to the purpose and design of the Moku-Moku groups, and the student therapists are especially adept in providing a positive, social atmosphere for the children. It is in the area of direct teaching and individualized supports that the TEACCH model, which emphasizes identifying the learning strengths of each child and incorporating individualized strategies into the lesson plan, outlines additional strategies to enhance the overall effectiveness of the social skills training. Following is a brief description of a particular Moku-Moku group session, and an illustration of how some additional structure and strategies could be integrated into the session plan to increase the level of independent functioning of the children as they complete the assignment.

The original social group session plan was developed for a group of middle school boys to practice communication and cooperation skills during a cardboard, boat-building exercise. The idea for the exercise came from one of the boys. Two of the four boys in the group had been diagnosed with a pervasive



developmental disorder. A third child was suspected of having a pervasive developmental disorder. This was a complex activity with many different steps and materials. A task analysis of the activity (illustrated below) identified four distinct phases and an underlying set of functional skills that would be fairly well developed in order to successfully complete each phase.

In the first phase, each child was asked to create an idea for adding to the cardboard boat. The underlying skill of imaginative play would be important in this exercise. Second, each child was asked to work with another child and select one idea that they could work on together. This phase involved negotiation and required good pragmatic communication skills. In the third phase, the children had to plan how they were going to complete the new construction on the cardboard boat. Executive functioning skills would be important in this phase. And finally, in phase four, each pair of children would need to work together to complete the project. Cooperation and other social skills would be necessary here.

After breaking the task into its various phases and functional skills, an assessment of the strengths and weaknesses of each child can be done in order to plan the specific teaching strategies and performance supports that will help each child complete the exercise independently. This assessment is based upon the student therapists' knowledge of the child and can include relevant background information, formal test results, and informal observations. Given that three of the four children have characteristics of an autism spectrum disorder and the underlying functional skills that support each phase are all associated deficit areas for autism spectrum disorder, strategies that have been developed for children with autism spectrum disorder may be useful in this exercise. The strategies and how they may help compensate for the deficit areas and increase the children's abilities to participate in the plan of the session with greater degree of independence are presented in the following sections.

Clarifying expectations. The student therapists typically present the agenda for each session to the children at the beginning of each session. In addition to a verbal explanation, the agenda is written on a white board. A written schedule, individualized for each child may be a helpful adaptation depending upon the needs of each child. The purposes of the schedule are to clarify what the children are expected to do during the session; reduce anxiety that might be associated with a novel, complex exercise; and help sustain the child's motivation and build a sense of accomplishment for the activity. Following is an example of a written schedule that would be passed out to each child and reviewed in the beginning as is typically done, but could also be easily reviewed by each child at any point in the session.

Clarify Expectations with a Schedule

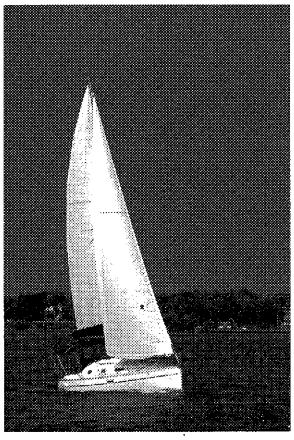
Today's Schedule

1. Read a story & assign partners
2. Create an idea with therapists
3. Decide on idea with partner
4. Plan steps with therapists
5. Plan steps with partner
6. Carry out plan and add to the boat
7. Share with others & compliment partner

Each schedule may be individualized by adjusting the schedule format, incorporating pictures and a method of indicating completion of each item on the agenda, or by adding themes that appeal to the child's interests. Notice that time is scheduled with each student therapist team for tasks that require multi-tasking: thinking, communicating, and relating to others. The student therapist can provide direct teaching for the upcoming task and prepare the children for working with a peer.

Social narratives are useful for many higher functioning children with autism spectrum disorder or Asperger's Syndrome because they help the child understand what to pay attention to in social situations and how to act in order to satisfy a personal desire by achieving a shared (i.e., social) goal. For this group of children in the Moku-Moku group the personal desire might be having fun with a friend and the shared goal might be learning to be a good partner and to work together. The example below illustrates a social narrative for the group.

Clarify Expectations with a Social Story



Working Together

People can accomplish great things and have fun when they work together!

Today we are going to work together and build a boat. When I work well with others I am a good partner. If I am a good partner other children will like to play with me and I can make friends.

I can be a good partner if I

[ ] Participate
[ ] Am patient
[ ] Compromise
[ ] Take-turns, and
[ ] Compliment

Today in Moku-Moku group my therapists will help me be a good partner and I will have fun making a boat!

Built into this social narrative is a concrete definition of what it means to be a "good partner" and a checklist that can be used with the child or by the child himself to review his behavior during all or part of the session.

Supporting creativity. Some children, especially those with an autism spectrum disorder, seem to have difficulty getting started with activities, especially if the activity is new, the situation is less familiar, or multi-tasking is required. This problem with initiation can make a child very dependent on others and increase his anxiety level. Some of these same children tend to be better processing visual information as compared to auditory information. For these reasons providing a child with visual prompts or cues can make it easier for him to begin an activity without having to depend on someone else for help. In the case of the ship-building exercise children are asked to come up with a creative idea for something that they have never done before in the Moku-Moku group. They also have to communicate and work with another person, which involves multi-tasking. A worksheet (i.e., visual support) to help a child concentrate on the task of creativity can help a child focus and give them necessary assistance to proceed without having to wait for cues from another person. An example of a worksheet that might be appropriate with the group building the cardboard ship follows.

Instructions: Write down or draw some things you would like to add to the boat

1.	[ ] Heliport
2.	[ ] Sail
3.	[ ] Canon
4.	[ ] Armor
	[ ] _____

This example actually combines a couple of different ideas for visually prompting a child to engage in creative thinking. The left column simply gives the child a place to record his or her ideas. The right column actually gives the child some concrete possibilities and leaves an open line for the child to list something that is not already listed. For a child with limited language capabilities, pictures could accompany the words of suggested items.

Supporting negotiating. Talking with a peer and choosing one idea from many can require competence in a number of relatively complex skills, especially pragmatic communication. Even at a fairly basic level these interactions involve many of the steps involved in complex negotiations. One technique for assisting a child with autism spectrum disorder to engage in reciprocal conversations is through the use of a communication script, which provides the child with an outline for a conversation on a given subject. The following slide provides an example of how to script a conversation.

Structuring Negotiation

Strategies to facilitate negotiation

1. Provide conversation script
2. Role play
3. Visual prompts for important communication
4. Teach how to ask for a "time-out"

Example of a conversation script

How to Decide on a Project

1. Say to your partner, "I want to make a _____."
2. Say to your partner, "What do you want to make?"
3. Think about how you could have fun with your partner's idea.
4. Decide:
    1. Agree to do what your partner wants to do this time.
    2. Offer another idea
    3. Decide by chance

Supporting planning. Activities that involve multiple steps and multiple materials require good planning and organization skills—both of which are frequently difficult for children with difficulties in executive functioning (e.g., children with an autism spectrum disorder or an attention-deficit disorder). A separate list of the various steps and/or materials is one way to support limitations in working memory that can be easily over-taxed when there is too much to remember. The following slide provides an example of a written list that could be generated with each child in this boat building exercise. Of course, the actual steps and needed materials will depend on what add-on project is chosen for the boat building exercise.

Structuring Planning

Strategies to facilitate planning

Materials we need:

[ ] Boxes
[ ] Scissors
[ ] Marker
[ ] Tape
[ ] _____
[ ] _____
[ ] _____

Example:

Steps:

1. Get materials
2. Cut window in box
3. Cut door in box
4. Attach window to boat
5. Attach door to boat
6. Clean up

Once a child thinks through what is needed and what steps should be taken to complete the project, the child will have to negotiate the final plan with his peer. The following slide illustrates an example of how two children might decide how they can best work together to construct their project.

Plan

Taro

[ ] Get 2 boxes & scissors.
[ ] Cut door _____.
[ ] Work with Zenmaru to attach door to boat _____.
[ ] Work with Zenmaru to attach window to boat _____.
[ ] Clean up

Hanako

[ ] Get 1 box & tape _____.
[ ] Ask therapist to cut window with cutter _____.
[ ] Work with Kato to attach door to boat _____.
[ ] Work with Kato to attach window to boat _____.
[ ] Clean up

Supporting social skills. The written schedule, social narrative, and the various worksheets are intended to function as supports or aids that might allow the children to proceed through the complex activity of building a cardboard ship with a peer. By way of analogy, they are like a set of prescription glasses that a person with a visual impairment might need to be able to perform a function relatively independently. The prescription glasses are only helpful if they help someone see more clearly (e.g., "the right amount and the right kind of structure") and if they are easy to use and available when they are needed. The same consideration should be made in deciding whether or not to use these strategies with a child in the Moku-Moku group. Once again, the final goal is to provide the child with the structure and support he may need to be able to complete the exercise with only limited or no assistance from the student therapist once the supports are in place and briefly taught to the child. If these supports (i.e., prescription) are helpful, then they can be made available to others who work with the child (e.g., parents, teachers) so that they can provide the same supports in other settings. This is one way to help a child with a disability partially or completely compensate for the disabling condition.

Stress Coping and Self-Control

The ability to regulate one's own behavior and manage the stresses of everyday life is as much a skill that needs to be developed as any other in a child's life. Children with developmental delays in other functional areas typically show the same level of delay in self-control. In many cases, the delays in emotional and behavioral control are even more pronounced given the overall increased levels of stress in many of these families and the increased stress that may accompany unrealistic expectations for behavior that others may impose when a child's disabling condition is not readily apparent from the child's physical appearance. Once again, the biopsychosocial perspective—which suggests that a child's ability to regulate his or her own behavior is influenced by various biological, psychological, and sociocultural factors—provides the best model for understanding the child's behavior and for considering interventions.

Due to the generally positive atmosphere and the individual attention that each child received during the Moku-Moku group, temper tantrums and severe emotional upset were rare. However, there were plenty of opportunities for the children to experience some frustration and stress given the nature and purpose of these groups, and some children clearly demonstrated less well developed abilities to cope effectively. Several parents also commented on their children's difficulties handling stressful situations at home or at school, which, in some cases, led to mandated or elected withdrawal from school or other settings in which their children could not exercise expected levels of self-control. Given that the Moku-Moku group provides a therapeutic "holding environment" that helps manage the severity of the stresses that the children experience, the group experience provides an excellent *in vivo* opportunity to assess each child's resources and liabilities for effective coping, and to design and implement strategies tailored for each child. Most importantly, the child can build confidence in his or her ability to use these strategies when incremental successes are recognized by the child's therapists and reinforced.

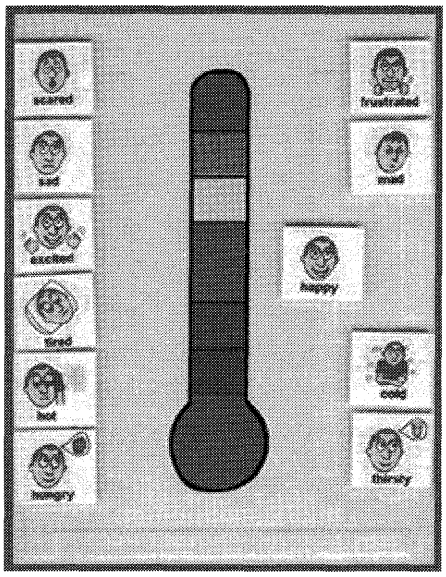
At a neuropsychological level the emerging research into emotional self-regulation suggests that a child's ability to exercise control over his or her behavior is dependent upon the child's emerging executive functions and the salience of feedback given by significant people in the child's life. Structured interventions are designed to enhance these two areas of influence over the child's behavior, and to build the child's sense of competency in controlling his own behavior. The strategies, which tend to follow a developmental sequence of achieving self-control, include increasing awareness, creating intentionality, anticipating consequences, strengthening motivation and reinforcement, and promoting self-efficacy.

Awareness. Self-control begins with an awareness of one's feelings and the ability to label or name the feelings. These skills are acquired through normal developmental stages and those children who are experiencing some delays in the acquisition of these skills are sometimes referred to as alexithymic (an inability to name one's own feelings). Children typically acquire these skills at the time when language is developing by having displays of the various emotions—in themselves and in others—named for them by caretakers. Eventually the children begin to identify the emotional states in themselves. For some children the difficulty may lie in integrating the subjective experience of a specific emotion with the salient features of observed behavior (e.g., facial features, vocalizations, body language, etc.) into an internal, generalizable model. For other children the difficulty comes when they are asked to recall the label or name associated with this internalized model. The available research suggests that many children with autism spectrum disorders have difficulty with one or both aspects of this process and a number of strategies have been

developed to support children in acquiring these important skills.

The first, most commonly used strategy is to teach children to use icons as labels for their feelings and the feelings of others. These visual representations of various emotions are sometimes more easily recognized and associated with a child's internal states or a display of behavior in another.

A second, widely used strategy is to teach children to gauge the intensity of their current emotional experience using a visual calibrating device, such as an emotion thermometer. For most people, not having control of one's emotions is frightening and undesirable. Children are better able to regulate their emotions if



they are more aware of the intensity of their emotions.

Intentionality. If self-control begins with an awareness of one's feelings and how those feelings are being expressed in one's behavior, the next step would seem to be the child making a choice to interpret a situation in a certain manner and to express his or her feeling in a particular way. Setting some behavioral goals with the child can be done informally or formally through an agreement or "behavior contract." Like any goal in which a new skill is being developed, it is important that the child can build success incrementally and that the child's effort (rather than just outcome) be encouraged.

Anticipating consequences. Many children with autism spectrum disorders (and attention-deficit disorders) have difficulties with executive functions that, among other skills, include an understanding of cause-and-effect and an ability to anticipate consequences, including the consequences of one's choices and one's actions. Cognitive-behavioral therapists oftentimes focus their work with clients in this area of developing "stop and think" strategies. There are a variety of techniques (e.g., role playing, Comic Strip Conversations, etc.) that can be used creatively to help a child think through the possible consequences of an action.

Motivation and reinforcement. Children generally have no difficulty finding the motivation to do what they want to do or to avoid doing what they don't want to do. Psychologically maturity involves the child's ability to sustain motivation for things he doesn't want to do when the reward is not immediate or to develop in intrinsic interest in prosocial and moral behaviors. Children with autism spectrum disorder are typically quite delayed in the acquisition of both types of psychological maturity. For that reason, reward and reinforcement that are typically used with younger children remain appropriate for the child with autism spectrum disorder. The rewards tend to need to be more tangible or more specific to the child's special interests, and they need to be used on a much more frequent basis and much more immediately following the desired response.

Self-efficacy. Self-efficacy refers to the child's sense of competence and self-determination when confronted with challenges. Social psychologists suggest that there seems to be a natural drive (i.e., intrinsic motivation) for most people to develop a sense of having some control over events in their lives. Therefore, designing intervention strategies that incorporate the development of the child's sense of competence is likely to be most motivating and likely to result in the child generalizing the new skills across many settings.

Certainly in the Moku-Moku groups the student therapists encourage the children to develop confidence in their abilities. Some of the strategies mentioned in this paper that promote a greater degree of independence from direct, personal prompting by others by providing some structured routines and supporting materials (i.e., prosthetics) have the potential to increase the child's sense of self-empowerment even more. In English there is an old saying that states, "It is better to teach a hungry man how to fish rather than to give him a fish." Helping the children in the Moku-Moku group learn to cooperate and communicate with their peers may involve less direct help from the student therapists and more creative use the strategies that support each child's individual learning strengths and learning style.

Conclusion

Although the primary goal of any clinical training program is to train students to be effective and ethical in responding to the concerns of clients and client families seeking services, there are many paths to achieving this goal, and many levels and dimensions that determine effectiveness. For the clinical psychology students-in-training, broadening one's perspective by considering various and diverse theories on the nature of human psychology and behavior, and deepening one's experience in applying various and diverse techniques under supervision in clinical settings can provide the "raw material" that will eventually be molded and shaped into an effective approach that integrates empirical research, and the personality and best clinical judgment of the practicing psychologist. For this author, the year spend at Kyushu University not only provided an opportunity to reflect on how aspects of his clinical training and experience could be integrated into the established clinical psychology program at a Japanese university, but also to become more aware of cultural factors that shape the practice of psychology. And finally, the kindness with which the

authors has been treated, and the colleagues, students, parents, and children that he has met during the course of this year will continue to inspire him with fondness and appreciation for many years to come.

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Appendix A

The Blind Men and the Elephant

by John Godfrey Saxe

It was six men of Indostan, to learning much inclined,
who went to see the elephant (Though all of them were blind),
that each by observation, might satisfy his mind.

The first approached the elephant, and, happening to fall,
against his broad and sturdy side, at once began to bawl:
"God bless me! but the elephant, is nothing but a wall!"

The second feeling of the tusk, cried: "Ho! what have we here,
so very round and smooth and sharp? To me tis mighty clear,
this wonder of an elephant, is very like a spear!"

The third approached the animal, and, happening to take,
the squirming trunk within his hands, "I see," quoth he,
"the elephant is very like a snake!"

The fourth reached out his eager hand, and felt about the knee:
"What most this wondrous beast is like, is mighty plain," quoth he;
"Tis clear enough the elephant is very like a tree."

The fifth, who chanced to touch the ear, Said; "E'en the blindest man
can tell what this resembles most; Deny the fact who can,
This marvel of an elephant, is very like a fan!"

The sixth no sooner had begun, about the beast to grope,
than, seizing on the swinging tail, that fell within his scope,
"I see," quothe he, "the elephant is very like a rope!"

And so these men of Indostan, disputed loud and long,
each in his own opinion, exceeding stiff and strong,
Though each was partly in the right, and all were in the wrong!

So, oft in theologic wars, the disputants, I ween,
tread on in utter ignorance, of what each other mean,
and prate about the elephant, not one of them has seen!

John Godfrey Saxe (1816 - 1887)

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