



The Interdisciplinary Council on
Developmental and Learning Disorders

A Comprehensive Intervention Program includes consideration of the following:

I. Home-based, developmentally appropriate interactions and practices (floor time program), including three levels

- A. *Spontaneous, follow-the-child's-lead floor time.* These sessions focus on encouraging the child's initiative and purposeful behavior, deepening engagement, lengthening mutual attention, and developing symbolic capacities through pretend play and conversations. The length of the sessions will vary depending on how long it takes the child to "warm up" and become fully engaged, as well as how long it takes the child to create and expand on new ideas. It is recommended that four or more hours (20 – 45 minute sessions, eight or more times a day) be devoted to this effort.
- B. *Semi-structured problem-solving.* These sessions involve setting up challenges to be solved in order to teach a child something new. The challenges can be set up as selected learning activities that are meaningful and relevant to the child's experiences. The challenges may be encountered spontaneously in the environment when the child desires something or confronts something different than he expects and, therefore, has a problem to solve to get what he wants. The challenges can be created as it becomes evident the child may want something and a problem is set up for the child to obtain it.

Problem-solving can take different forms and multiple interactions, e.g., expressing a new word(s) or gesture, learning a new concept, manipulating an object (motor planning), sequencing a series of steps to obtain an objective, or negotiating a turn or trade. For example putting a child's favorite toy outside the door and saying "Open" or "Close" to help him learn what "open" is and to say the word "open" when he's feeling a strong desire (affect) to open the door.

Purposeful gestures, words, concepts, and the use of pictures and signs can all be taught through creating problem-solving interactions (e.g., the child uses pictures, signs, and gradually, words to convey "open," "juice," or "more.")

The amount of time spent on semi-structured problem-solving will vary depending on the developmental level of the child, how purposeful he is, and specific areas of need such as the need to increase gestural communication, language and concepts, motor planning, etc. Those children requiring more semi-structure should do two or more hours a day (15 or more minutes, five to eight times a day).

Problem-solving interactions can occur in the course of daily routines with enough time allowed for extended interactions. Problem-solving can also be added to activities as finger plays and songs (e.g., "If you're happy and you know it," Simon Says), social games (e.g., musical chairs, Duck Duck Goose, Indian Chief, Hot or Cold, etc.), listening-auditory games (Telephone, Who, what, where am I?, Treasure Hunt-Blue's clues, etc.), board games (e.g., Barnyard Bingo, Memory, Mystery Garden, Connect Four, etc.), book-picture telling, etc. The key is to challenge the child to solve a problem generated by the game.

For children who are unable to imitate, more structured learning and behavioral approaches (such as TEACCH, Discrete Trial, special education) can be implemented to teach imitation, motor planning, and problem-solving patterns. Once a child can imitate and problem-solve, dynamic challenges should be used to teach new skills. (See attachments for further suggestions)

- C. *Motor, sensory, sensory integration, visual-spatial, and perceptual motor activities.* These activities are geared to the child's individual differences and regulatory patterns, build basic processing

capacities and provide the support to help children become engaged, attentive, and regulated during interactions with others. For example, under-reactive and low-muscle-tone children will benefit from proprioceptive (e.g., jumping on the trampoline) or vestibular (e.g., swinging) activities to increase arousal, attention, and intentionality. Other children need calming and organizing activities which build their awareness of their bodies in space, require bilateral movements, and reduce tactile defensiveness. Some children try to find their own “solutions,” evident in such behaviors as constant running and jumping or lying on the floor for more support.

To understand a child’s sensory, sensorimotor, and regulatory profile and organize a home program, it is useful to organize specific recommendations from all therapists (occupational therapy, physical therapy, sensorimotor or movement therapy, developmental optometry, speech and oral-motor therapy, music and art therapy). These activities can be used to help children get ready for floor time and semi-structured activities or to reorganize, to increase arousal (“rev up”), or calm down and focus, as well as to strengthen basic processing abilities.

Children will need different amounts of time participating in these activities depending on their individual needs, ranging from one, two, or more hours with 15-20 minute intervals interspersed throughout the day. For children at early developmental levels, needing to become more fully engaged and purposeful, these activities may be used a great deal because they are “fun” and increase the pleasurable interactions with a child. They also increase communication as a child can be taught to gesture or use picture communication to indicate what they want (e.g., more or less, slower or faster, etc.). They can also be used for problem-solving interactions and sequencing (e.g., obstacle courses and other motor planning activities).

At the more advanced developmental levels, the activities may focus on practicing specific abilities such as visual pursuit and motor planning (e.g., flashlight games, bilateral drawing activities, construction, etc.). The activities can also be integrated with symbolic ideation such as “flying to outer space” on the swing, “steering clear of sharks and pirates” on the platform swing, Peter Pan fighting Hook with Nerf swords (eye-hand coordination), jungle safaris in search of wild animals, construction of forts, etc.

At all levels, children will benefit from regulatory games and practicing basic visual-motor and visual-spatial skills. These activities may overlap with some of the semi-structured activities described above.

The basic areas of functioning that should be addressed include:

1. *Sensory and motor modulation and integration* – start-stop activities, running and changing direction, red light-green light, jumping on a mattress or trampoline, spinning, swinging, gentle roughhousing – wrestling, musical chairs—slow, medium, and fast (changing speeds) etc.
2. *Perceptual motor challenges*, which include looking and doing games and activities involving destinations, such as throwing and catching, reaching for a desired object moving on a string to the left, right, and across the midline, kicking and hitting a big Nerf ball, balance beams, playing dodge ball, flashlight tracking and drawing, etc. Fine motor and grapho-motor activities include pencil and paper mazes, dot-to-dot, copying designs, Legos, Light Brights, cutting and pasting, painting and coloring, etc.
3. *Visual-spatial processing activities*, including treasure hunts, obstacle courses, hide-and-seek, what’s missing?, games such as Connect Four, Othello, Guess Who, and junior architect games.
4. *Tactile discrimination* – finding objects hidden in different textured materials (rice, beans, bird seed, etc.), finger painting in pudding, paints, or shaving cream, identifying objects and toys hidden in a pillow case – add verbal clues, ask for category, etc.

D. *Peer play with one other child* should be started once a child is fully engaged and interactive, with parents providing mediation to encourage engagement and interaction between the children. It is best to invite children who are interactive and verbal and can reach out and encourage, as well as model for, the child with special needs.

Play dates should be increased to three to four times a week as soon as possible.

Because the demands of this home-based program are considerable, it is important to schedule the time and bring in other family members and people (e.g., graduate students, volunteers, etc.) to implement the program. All should learn to do floortime and be familiar with its principles.

II. Speech and oral motor therapy – three or more times a week is optimal. In addition, a daily home program should be prescribed, some of which can be incorporated into floor time and semi-structured problem-solving activities.

III. Sensory Motor and sensory integration based occupational therapy and/or physical therapy – two or more times a week. In addition, a daily home program should be prescribed and included as part of the program described above.

III. Educational program

- A. For children who can interact and imitate gestures and/or words and engage in preverbal problem-solving, either an integrated, inclusive program or a regular preschool program with an additional teacher or aide, if needed. The aide may also help the teacher with various preparation tasks in order to free the teacher to facilitate interaction with other children. An inclusion consultant should be brought in who can address needs of the special child as well as other children in the class.
- B. For children not yet able to engage in preverbal problem-solving or imitation, a special education program where the major focus is on engagement, preverbal purposeful gestural interaction, preverbal problem-solving (a continuous flow of back-and-forth communication) and learning to imitate actions, sounds, and words.
- C. Transition educational-type programs with typical peers to augment primary educational programs or prior to enrollment in preschool. These would include classes in movement or gymnastics, music, creative drama, therapeutic riding, art, swimming, Mommy and Me Toddler groups, etc. Parents are usually included and can facilitate participation and interaction. Groups should be selected to match developmental rather than chronological age.

V. Biomedical interventions, including consideration of medication to enhance motor planning and sequencing, self-regulation, concentration, and/or auditory processing and language.

VI. A consideration of:

- A. Nutrition and diet
- B. Technologies geared to improve processing abilities, including auditory processing, visual-spatial processing, sensory modulation, and motor planning