Cognitive Control Therapy with Children and Adolescents

Therapy with the Field Articulation Cognitive Control

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The field articulation cognitive control defines the manner in which a child scans, articulates, and responds to a field of information in terms of what is relevant and irrelevant for the task at hand (see Chapters 2 and 3). The program described in this chapter is designed to restructure and rehabilitate this control mechanism so that it functions efficiently when external information is handled as it is, as well as when information is transformed with symbols and fantasies within the process of symbolic functioning.

To benefit from this program a child should have achieved, in the course of development or with the assistance of the programs already described, stage-appropriate functioning in body ego-tempo regulation and in passive and active scanning. Therapy in field articulation emphasizes developmentally more advanced cognitive activity than required by previous programs: the child articulates and responds to fields of pieces of information that continually shift in relevance as the therapist designates the dimensions that guide how the information is to be considered and processed. In therapy with the developmentally earlier focal attention control, the child is asked to track moving targets and later to scan, for example, two rods and compare

their heights. In performing these responses the child begins to withhold attention from various stimuli (e.g., pictures on the office wall). Nonetheless these tasks emphasize passive tracking and active scanning to develop efficient focal attention functioning, while body movements are regulated. In contrast the tasks of field articulation therapy require the child to use active, broad scanning and body movements are regulated within a process that deploys attention *selectively,* directing and withholding attention from information as it shifts in relevance.

The first distinguishing feature of this level of treatment, then, is that the child's responses are more differentiated *cognitive* manipulations of information. Sensory motor accommodations to information are subordinated and minimal while cognitive accommodations dominate. More complex than the task of comparing the heights of two rods set far apart, field articulation tasks contain complex organizations of contours, colors, spatial relations, and sizes to be surveyed, and more complex dimensions guide which information is to be responded to as relevant. With a second distinguishing feature the child engages information that is more confined to micro-space. Fields of information are presented on the surface of a table and subsequently on sheets of paper.

PROGRAM 3: FIND THE SHAPES

Purpose and Goal: To develop the child's capacity to direct attention selectively at complex fields and configurations of information in terms of dimensions of relevance/irrelevance; to promote the efficiency of field articulation functioning with external information perceived as it is and with information transformed with symbols and fantasies in the process of symbolic functioning.

Materials: (a) plywood, cardboard, plastic cutouts of four geometric shapes (square, circle, triangle, diamond), three sizes (2 x 2, 3 x 3, and 4x4 inches) and six colors (red, yellow, blue, green, white, black); (b) *8V2* x 11 inch sheets of paper on which are printed geometric shapes, pictures, letters, arrayed in rows and randomly; (c) buttons and paper clips of various sizes and shapes, Lego pieces of various sizes and shapes; and (d) various ambiguous shapes cut from construction paper each approximately 2x2 inches; with each shape the sides are linear, or curvilinear, or a combination.

Instructions and General Procedure

The therapist places an array of information on a table and instructs the child as to which dimension or dimensions of the information are relevant and what the child is to do with that information. In dealing with each array, the child uses two main responses; the information designated is removed from or located within the array. With younger children, it is useful to refer to

relevant information as “the answers;" and whenever the task requires that relevant information be removed and located in a box, the latter is referred to as the "answer box."

The program consists of seven steps, as outlined in Table 7.1, each with a graded series of tasks that gradually increase in complexity. This is accomplished by following three guidelines either one at a time or in combination, once a starting point along these guidelines is selected that best suits the child's needs.

Table 7.1. Steps in Therapy with Field Articulation: Find the Shapes

Step 1.	Child articulates fields of geometric cutouts in terms of dimensions designated by therapist and removes them
Part A	Complexity of field surveyed increased by therapist
	1. From few cutouts to many cutouts
	2. From cutouts of one color to many colors
	3. From cutouts located close together to far apart
	4. From one type of geometric shape to four shapes
	5. From cutouts of one size to three sizes
	6. From displays without patterns to patterned displays
	7. From an ordered array to a random array
	8. From arrays of single cutouts to arrays of stacks of cutouts
Part B	Complexity of dimensions defining information as relevant/irrelevant increased by therapist

1. From one to many dimensions defining relevant/irrelevant information

Part C — Delay engaging relevant information increased by therapist

1. From little delay to much delay

2. From simple to complex tasks interpolated between instructions and performance

Part D — Child and therapist evaluate field articulation behavior

Step 2. — Child articulates fields of more complex stimuli in terms of dimensions designated by therapist which emphasize relationships among stimuli

Parts A-D — Same as Step 1

Step 3. — Child articulates fields of information, containing simple and complex stimuli, while shifting points of view and anticipating dimensions designated by therapist

Parts A-D — Same as Step 1

Step 4. — Child articulates fields of information that arouse fantasies/emotions

Parts A-D — Same as Step 1

Step 5. — Child articulates fields of information construed as something other than what they are as directed by therapist and then by child

Parts A-D — Same as Step 1

Part E — Child and therapist evaluate whether symbols constructed are conventional or .personal and the degree to which they fit attributes of stimuli

Step 6. — Child articulates fields of information within a fantasy directed by therapist

Parts A-E — Same as Step 5

Step 7. — Child articulates fields of information within non-directed fantasy and free play. No restrictions are imposed on the complexity of fields of information or the

One guideline defines the degree of complexity represented by a field of information. For example, if geometric cutouts are used, the first array presented contains a few cutouts (e.g., six) all of one shape (e.g., squares), one size (e.g., large), one color (e.g., white), located close together (2 inches separate each cutout from others), and in rows and columns. A later array would contain more cutouts (e.g., 20), of two shapes (e.g., squares and circles), two sizes (e.g., large and small), and three colors (e.g., white, yellow, and red), located further apart (e.g., 6 inches separates one cutout from others), and in a more random array.

Another guideline concerns the complexity of dimensions used to define information relevant or irrelevant, and accordingly determines the complexity of the cognitive response the child is asked to perform in managing the task. Initially the therapist designates a few dimensions which define relevant information and, in a stepwise fashion, gradually designates more dimensions.

To illustrate, assume a child is presented with 30 cutouts of three shapes (squares, circles, triangles), two sizes (large and small), four colors (white, red, yellow, green) and arrayed in six columns of five rows, each cutout located 6 inches from another. This same array could be used to

require that the child engage in a simple field articulation response and gradually in a series of increasingly more complex responses (e.g., the child is asked to remove: all the red cutouts; all the squares; all large, yellow triangles; all small, green circles and large, white squares; all small, green triangles next to either a large, white circle or large, yellow square. Or the child is asked to locate a small, blue diamond on each large, yellow circle and small, white triangle).

A close examination of the cognitive activity required by these examples helps illustrate how the child uses increasingly more differentiated field articulation responses as the number of dimensions defining relevant information is increased. With the first designation (red cutouts are relevant), the child scans the matrix, registers a blue cutout, withdraws attention, registers a yellow cutout, withdraws attention and so on—a process which subordinates as irrelevant the various shapes and sizes present and which actively withdraws from any color that does not qualify. Comparing this process with that required by the third task listed above (large, yellow triangles are relevant), the child scans the matrix, registers a large, yellow square, withdraws attention because the color is relevant but the shape is irrelevant; then registers a large, green triangle and again withdraws attention because the shape is relevant but the color is irrelevant; then registers a small, yellow triangle and withdraws attention because the color and shape are relevant but the size is irrelevant, and so on. The same micro-

analysis could be applied to the field articulation activity required by the other tasks which use more complex designations to define relevant information.

A third guideline concerns cognitive delay which is superimposed on the other two guidelines. The therapist could permit the child to respond immediately once the relevant information is defined, or require the child to delay before responding, initially for 5 seconds, then 15, then 25, and so on. In addition the therapist could interpolate activities during these delays, asking the child, for example, to count to 10, read a paragraph, or draw a human figure.

These three guidelines are used in all steps of the program with some modification, except for the last. As discussed in Chapter 4, when a child has handled successfully three displays in a row at one level of complexity, the next display presented is made more complex by following one or more of these guidelines (i.e., increasing the complexity of the display, the number of attributes that define relevant information, and the delay imposed on the response).

The various steps in the program differ in terms of the degree to which information is articulated as it is or construed as something else. With Steps 1 and 2 the child deals with fields of information that are managed as they are.

Steps 3 and 4 prepare the child for symbolic functioning by presenting tasks which emphasize shifting points of view, anticipating information, and balancing emotions and fantasies while engaged in the field articulation process. The child formally uses field articulation within the process of pretending and symbolic functioning in Steps 5 and 6. Step 7, as with other programs, is intended to be a bridge to a non-directed verbal/play treatment process within which the child resolves key pathological metaphors with the benefit of efficient field articulation functioning.

With an outer-oriented child, the seven steps are followed in the sequence described. In this way the child begins to restructure the field articulation mechanism by engaging information as it is without the participation of fantasy/emotions, which cognition habitually avoids. As the child's functioning becomes more efficient, the child is then asked to articulate fields of information that arouse emotions and fantasies, and eventually which require that information to be construed and transformed within the process of symbolic functioning.

With the inner-oriented child the reverse sequence is followed. The therapist begins with Step 7 and looks for opportunities to introduce field articulation tasks within the child's spontaneous fantasy activity. As an alliance develops, the therapist gradually moves to Step 6 and then 5, which require the child to construe information with symbols that are more

conventional as well as highly personal. When the child's symbolic functioning becomes more flexible and responsive to attributes of external information, the therapist moves through the remaining steps helping the child develop efficient field articulation functioning while engaging information as it is, without the participation of fantasies and symbols.

Once the outer-oriented child achieves Step 7 and the inner-oriented child achieves Step 1, both children are more equipped with field articulation functioning as a tool to serve efficient learning and adapting. At this point, if indicated, therapy transitions to a non-directed verbal/play format to help the child work through and reform key pathological metaphors, a task which should be facilitated by the availability of efficient field articulation cognitive control functioning.

Introducing the Program to the Child

The Outer-Oriented Child. Begin with Step 1 and place a display of geometric cutouts on the table. Say, “Mary, we're going to play a game called *Find the Shapes.* Look these over and take all the squares and place them in this box.” After the child performs, say, “Fine, let's try another one." The therapist removes the first display and presents another. “Now look this over and put only the small, yellow squares in this box." Once the child performs, the therapist introduces some explanation of the task since children who

require this program frequently can assimilate some understanding of its purpose. Say, “The games we'll play go like this. I'll put cutouts and other things, on the table and I'll ask you to take certain ones away and to ignore others. When you do this over and over again, it will train your mind to concentrate better on the things that are important to get the right answers, and to push away (ignore) with your mind the things that are not important. Like when you read, you have to pay attention to the story and ignore other things. Let's try another one."

The Inner-Oriented Child. In one or more open-ended sessions, observe the materials the child tends to manipulate. As soon as an opportunity permits, construct a display with this material to form a field articulation task. Assume a child moves quietly about the room, ignoring the therapist for the most part, casually manipulating wooden human figures, toy animals, and puppets. On different occasions, the child presses and rubs one figure against another, places the wolf puppet on his hand, “bites" the pig puppet, and stands the wooden figure of a workman next to the pig puppet. The therapist takes 10 or 12 of these wooden figures, hand puppets, and animals, spreads them on a table in rows and columns, and says, “Harry, look these over; take all the ones that bite and are mean and put them in this box." After the child responds, the therapist returns the items to the display and says, “Now put all the ones that are nice in this box." The child responds and the therapist returns the items to the display. “Now all the ones that are the biggest."

The therapist's initial requests attempt to use some aspect of the fantasies the child hinted were operating while manipulating the material. Then the therapist invites the child to designate an attribute. “What shall we take out next, Harry? You decide on something." Harry responds, “All the dirty ones." The therapist says, "OK take out the dirty ones. Which ones are those?" By repeating this procedure, the therapist begins to gain entry into aspects of the child's fantasies, which at this point are not fully revealed and which serve to defend against the treatment relationship. The therapist continues connecting with the child through field articulation tasks until an adequate alliance is established and the child is more receptive to interacting with the therapist. Then the therapist shifts to Step 6 and becomes more active, directing fantasized situations within which field articulation tasks become elaborated.

Specific Instructions

Step 1. The goal is to engage the child with tasks requiring the field articulation process and which become increasingly complex in a stepwise fashion. Wooden, plastic, or cardboard geometric cutouts are used initially as material because they are neutral stimuli and readily permit tasks to be graded in complexity. Tasks are made more complex by following the guidelines of Parts A, B, and C characterized in the introduction. With each task place a display of cutouts on the table and ask the child to remove

particular ones and place them in the answer box. Later in treatment another response is added—the child is asked to place specific cutouts in particular locations within the array.

If a child is severely dysfunctional in field articulation, the guidelines of Part A (complexity of the field surveyed) are varied in the sequence noted in Table 7.1 while the guidelines of Parts B (complexity of dimensions defining relevant information) and C (delay) are held constant. The number of cutouts presented is systematically increased, and then the number of colors is increased as well. Next the distance between cutouts is increased within the number of cutouts and colors achieved in the previous trials; then the number of shapes and the number of sizes are increased in turn; then the arrays are constructed to contain patterns; then the arrays shift from an ordered arrangement of rows and columns to a more random arrangement; and last the arrays shift from containing single cutouts to stacks of cutouts.

The following example illustrates how these attributes are manipulated accumulatively. The therapist presents an array of: six cutouts (a relatively small number); of two colors (e.g., white and red); located close together (e.g., two inches separate each cutout); of one shape (e.g., all cutouts are squares); of one size (all cutouts are medium); the array does not form a pattern; the array is ordered in two rows and three columns, and the array consists of single cutouts. The child is asked to remove all the white cutouts and locate

them in the answer box. If the child is successful with three trials of this level of complexity, the therapist increases the complexity by presenting a display of 12 cutouts (the number is greater). All other variables remain the same although the two colors and the sizes used would vary from display to display. Then the number of cutouts is increased to 20, for example, then 30, with all other variables remaining constant. When the child handles the display of 30 cutouts successfully, the therapist next increases the number of colors to three. First a display of 20 cutouts of three colors is presented, then a display of 30 cutouts of three colors. When the child is successful with this level, the number of colors is increased, for example, to five. First a display of 20 cutouts of five colors is presented, then a display of 30 cutouts of five colors. Throughout these trials, as color is manipulated along with the number of cutouts, the other attributes are held constant (e.g., close together, one shape, one size, etc.).

Notice that the number of cutouts is reduced to 20 (from the maximum number, 30, the child handled previously) each time the number of colors is increased. And then the number of cutouts is gradually increased again. This illustrates a technique that should be underscored at this point. Each time the complexity of the task is increased along some variable, the number of cutouts is *decreased* below the maximum achieved in previous trials and then increased again in a stepwise fashion. In this way the child is introduced to a new combination of variables, and therefore to a higher level of complexity,

with a field of information that is initially less expansive than those of previous trials. When competence is achieved with the new variable, the field of information becomes more expansive.

Returning to our illustration, after the child successfully handles a display of 30 cutouts of five colors, removing all the items of a particular color as requested, the therapist introduces the variable of the proximity of cutouts. First a display of 20 cutouts of five colors is presented with the cutouts now 6 inches apart (versus 2 inches in the previous series). In the display to follow the cutouts are located 12 inches apart, and then 18 inches. With each task the child removes all the cutouts of a color designated by the therapist. Note if a large display is required with cutouts located very far apart, the display is located on the floor.

This sequence is repeated when the number of types of shapes is increased. The child has been working with displays consisting of squares. Triangles are added, for example, first in displays of 20 and then 30 cutouts of five colors, located initially near and then far apart. A third shape (circles) and then a fourth shape (diamonds) are added in the same way. When the child handles displays of 30 cutouts of five colors and four shapes, located near together and far apart, the therapist next introduces the dimension of size, adding a second size (e.g., small) and then a third (e.g., large), following the same procedure.

At this point, the child shows competence in field articulation functioning with displays of 30 cutouts of several colors, shapes, sizes, located close together and far apart. Now the task complexity can be increased further by constructing patterns of irrelevant information within the display. With one technique, colors and sizes that are *not* "answers" are arranged in some pattern that dominates the field to be surveyed. Examples: construct a frame of large, red shapes around the border of the display; locate a diagonal of yellow cutouts from one corner of the display to the opposite corner; locate two parallel columns of blue cutouts, extending from the top to the bottom of the display; locate four large, green cutouts in each corner of the display or cluster them in the center. The red frame, the yellow diagonal, the blue columns, for example, become dominant “figures” with the remaining cutouts the "ground.” Accordingly more vigorous field articulation is required to subordinate these patterns while directing attention selectively at the information designated as relevant.

After presenting tasks that include patterns which modify the figure-ground relationships of the field of information, the therapist integrates the variable that concerns whether the display is ordered or random. Now instead of forming orderly rows and columns, the cutouts are arranged in increasingly random displays. For example, at first, three of the five columns in an array remain intact and the cutouts of the other two columns are spread out so that they cannot form rows and columns. Then all the cutouts are

spread about in a random array.

The last technique used to introduce complexity into the field of information surveyed involves constructing displays of stacks of two or more cutouts instead of single cutouts. For example, instead of locating 15 single cutouts of several colors, sizes, and shapes in three rows and five columns, the therapist locates 15 stacks, each consisting of two cutouts, a large one at the bottom and a small or medium one at the top. To handle the task of removing yellow squares from the top of each stack, for example, more vigorous field articulation functioning is required. The child must repeatedly subordinate the bottom cutout and articulate the top cutout as relevant. A more complex variation of the same technique involves stacks of three cutouts (a large one at the bottom, a medium one in the center, and a small one on top.) The stacking technique is used with more complex tasks, discussed below, with which the child removes answer cutouts from either the bottom, the middle, or the top of stacks, or locates cutouts within particular stacks.

As noted earlier, with the severely impaired child, while the complexity of the arrays presented are increased, dimensions which define information as relevant remain constant (guideline, Part B). Accordingly with each task, the child has been removing information which has been defined as relevant in terms of one dimension, (e.g., all the red cutouts; all the squares; all the

medium cutouts). When the child has achieved some competence with each of the variables listed in Part A, the therapist follows Part B and systematically increases from one to two the number of attributes which define relevant information (e.g., find all the green triangles), then to three (e.g., find all the small, yellow circles), then to more complex combinations (e.g., find the large, blue diamonds that are next to green circles; find red circles that are on top of red diamonds and under white squares).

With the last set of guidelines cognitive delay is introduced. While dealing with tasks which follow the guidelines of Parts A and B, the child has been allowed to remove the answer cutouts immediately after they were designated. Now the therapist requires the child to delay for increasingly longer periods of time before removing the cutouts (e.g., 15, 30, 60, 120 seconds). To introduce this guideline, say, "Mary, with the next game I'm going to ask you to wait before you find the answer shapes. After I tell you what shapes to find, wait until I say OK." After several trials with delay, invite the child to keep a notebook in which are recorded the duration of the delay, the level of complexity of the task, and whether or not the child made errors. Maintaining a notebook is one effective way of giving the child feedback on whether delaying influences the field articulation process.

With older children, the duration of a delay period can be an entire session. At the start of the session, an array is presented, and the answer

cutouts designated. Then, the child goes on with other tasks. At the end of the session, the child returns to the array and completes the task, without the instructions being repeated. This technique relates to the second guideline for delay, which involves introducing interpolated experiences.

After the child has developed the capacity to delay two or more minutes, correctly removing the answer shapes, the child is asked to engage in some activity during the delay period. The interpolated activity could gradually relate to the child's problems in school and home and therefore form a bridge to later steps, which involve field articulation functioning while emotions are aroused. To illustrate, a progression of interpolated tasks could include playing tic-tac-toe, solving subtraction problems, drawing a picture of a person, reading a short paragraph about a plane crash.

When conducting Step 1 with children who are less impaired, or who are appreciably impaired but older, Parts A, B, and C can be orchestrated simultaneously. For example, from one task, or a series of tasks, to the next, the number of cutouts can be increased along with the number of colors, shapes, and sizes; the array can be patterned and then eventually contain stacks. And, with each more complex display, the number of dimensions defining the cutouts to be retrieved can be increased as well as the delay imposed before the cutouts are removed. When guidelines are combined, therapists frequently make the error of moving too quickly, presenting the

child with a series of tasks that become too complex too fast. Therefore the child is cheated of the opportunity to repeat the field articulation process, over and over again, and to assimilate small degrees of increasing complexity with each repetition. To avoid this error, the therapist is encouraged to use the "rule" that the child should handle three tasks correctly in succession at one level of complexity, before being presented with tasks slightly more complex. In addition the therapist should be on the alert for signs of resistance, which suggest that the difference in complexity between one task and the next is too great.

Throughout this step whenever appropriate the therapist begins to draw the child's attention to noteworthy behaviors and expressions of tension and emotions that relate to efficiency and disruption in field articular functioning.

Step 2. Follow the same procedures, now making use of displays of more ambiguous information than is represented by geometric cutouts. The materials we have used most often, and which are readily located or constructed, include: buttons of various diameters, shapes, colors, sizes, and thicknesses; paper clips of various shapes and sizes; various shapes cut from construction cardboard in addition to circles, squares, triangles, and diamonds (e.g., hexagons, octagons, ellipses); shapes with only linear or curvilinear perimeters, and with both linear and curvilinear perimeters; and

various shapes in the center of which shapes are cut out.

These materials are used separately or in combination to form arrays and tasks following the guidelines of Step 1. A display of buttons and paper clips of many sizes, shapes, and colors arrayed as single items, or stacked, result in fields of information that are much more complex and ambiguous than those used previously. In addition to presenting more ambiguous fields of information, the therapist emphasizes task requirements that give the child experience articulating fields of information in terms of the relationships among the attributes located in the field. The following are examples of typical tasks: find small, round paper clips that are on large, round buttons and next to small, black buttons; find cutouts with six sides that are above a cutout with a square hole in it and to the right of cutouts with three wavy sides and one straight side.

Step 3. This step emphasizes experiencing field articulation while shifting points of view and anticipating information. This is accomplished by asking the child to retrieve a series of items, each member in the series defined by different attributes and, accordingly, belonging to a different category. When retrieving the first item named in the series, then the next, then the next, the child experiences using one point of view, anticipating and shifting to another point of view and so on. The arrays constructed contain materials used in Steps 1 and 2 in varying combinations that fit the child's

cognitive status and therapeutic needs.

To introduce this step, say, “Now we are going to play *Find the Shapes* in a different way. I'm going to ask you to find three (or four or five) particular things. Put each one in the answer box as I name it. Find a small, green diamond (child responds); now a large, red circle (child responds); now a medium, blue triangle."

By combining the materials from Steps 1 and 2, tasks can be constructed that require shifting among points of view that increase in complexity. For example, "Find a brown button that is on top a green square; (child responds); now a round paper clip that is on a yellow square; (child responds); now a paper cutout with only wavy sides that is on a blue diamond.” Following the guidelines of Step 1 the first arrays would contain multiple colored cutouts, but of only one shape and size, on which buttons and paper clips are located; then gradually the number of shapes and sizes of the cutouts would be increased. As the items are located in a more random array, the dimensions of proximity can be included as a point of view, (e.g., find a paper clip on a green square that is near a blue circle; (child responds); now find a paper clip on a red diamond that is far from a yellow square). And, when stacks are used, the point of view of location can be included (e.g., find a small green square on the top of a stack with no button on it; now find a blue diamond in the middle of a stack that has a red button on the top of the

tower).

Step 4. The child experiences field articulation functioning while fantasies and emotions are aroused and balanced, setting the stage for cultivating efficient field articulation functioning within the process of symbolizing. To accomplish this, various fantasy-arousing material is introduced while the child deals with tasks involving geometric cutouts as outlined in Step 1.

With one technique various pictures are located around the array the child is asked to manage. With a related technique, small pictures are taped on the top of selected cutouts. The content of the pictures is determined by the child's age, unique emotional make-up and difficulties (e.g., pictures of animals, persons, and mythical figures such as monsters and outer-space characters; pictures that portray nurturance, aggression, breaking rules, affiliation among peers). With another technique, as the child deals with a series of tasks, cassette recordings, which bear some relation to the child's unique personality issues, are played (e.g., recordings of racing cars, weapons firing, jet planes roaring, train engines, children crying or laughing, an adult shouting). With each task, after the child completes the requirements, the child is helped to share what the pictures or sound recordings brought to mind and what the child fantasized and felt.

When introducing this step, say, for example, "Now when we find shapes, there are pictures around them (or on them). These pictures will make you think of things, and feel things, or remind you of things you have seen or done before. Your job is to find the shapes I name. So while you are findings the shapes you have to try not to let what you are thinking and feeling about the pictures get in the way of finding the shapes. After you put all the shapes in the answer box, you can tell me what the pictures made you think of and feel."

Administer a series of tasks following the guidelines of Step 1 and systematically introduce various pictures or sounds. Select emotionally arousing stimuli carefully, and deal with the child's reactions therapeutically. Stimuli that are too disruptive run the risk of rupturing the therapeutic alliance. Initially use stimuli the child finds pleasurable and to which the child experiences no particular stress. Then gradually introduce stimuli that arouse a low level and then higher levels of stress and which increasingly provoke fantasies and emotions in the child. To determine which stimuli to introduce, the therapist relies upon his/her understanding of the child's emotional life and difficulties and observations made in therapy to this point. In addition, engage the child initially in examining a series of pictures and listening to sound recordings. Notice the child's spontaneous conversation and emotional expressions and conduct an inquiry (e.g., "Which one of these pictures is the most scary?") This preliminary exploration of the child's fantasies sets the

stage for work in the next steps which make more use of directed fantasy.

Last during this step, begin to record the time a child takes to retrieve answer shapes and engage the child in comparing the times observed with different tasks and their respective "emotional distractions." If the task complexity remains the same, and the child takes twice as long to retrieve cutouts from a display surrounded by pictures depicting nurturance than from a display surrounded by pictures depicting power, there is an opportunity to begin pointing out to the child how particular fantasies interfere with his "concentrating."

Step 5. This step presents fields of information to be articulated, but the information is now construed as something other than it is. Using the same geometric cutouts, paper clips, buttons, and so on construct arrays, following the guidelines of Step 1, and introduce a symbol or image in terms of which the child construes the material. For example, present an array of 20 cutouts (three sizes, four colors and shapes, in an ordered array of rows and columns) and say, "With this game we are going to play *Find the Shapes* in a different way. Instead of asking you to find small squares, or yellow circles, I want you to pretend the cutouts are something else, and then I'll ask you to find all the things of a certain kind from the things you pretend. Let me show you. Pretend all of these cutouts are people. Put all the cutouts that are babies in this box." After the child retrieves several cutouts, the therapist engages the

child in articulating the attributes the child used to fit the symbol of baby to the cutouts. For example, one child might retrieve all the small cutouts as babies and note that "the smallest ones are babies," another might retrieve all the red cutouts and note "they're babies because they always cry and get red." The therapist then asks the child, for example, to remove the "mother" cutouts, which are also examined in terms of the attributes the child uses.

As this work continues the therapist introduces various symbols from ones that are concrete (baby, father, mother) to ones that are more abstract (strong, weak). The therapist also varies the distance between the symbol used and its referent (e.g., brown buttons as farmers, blue buttons as policemen, and white buttons as nurses represent a close connection between the symbol and referent; while brown buttons as bad, blue buttons as happy, and white buttons as empty represent a more distant connection).

As the child becomes involved in this process of symbolizing the materials, tasks are presented within which the child designates the symbols to be used. For example, present an array of geometric cutouts and ask the child to pretend each type of cutout is something. In response the child calls the red diamonds, "fierce animals," the black squares, "fat elephants," and the white circles, "whales," and so on. The therapist uses these symbols in the task requirement (e.g., "Find a small elephant next to a medium whale."). When buttons, paper clips, and other more ambiguous material is used, the

child is encouraged to construct conventional symbols (e.g., an oblong paper clip is construed as a rocket ship) but also less conventional ones (e.g., a round button is construed as Darth Vader).

Throughout this step the therapist trains and directs the child in evaluating the symbols used in terms of whether they are more conventional or personal and the degree to which the attributes of the material fit the symbol. To facilitate this evaluation and to teach the child whether and how symbols communicate, the child is invited to ask the therapist to remove particular items in terms of a symbol offered by the child. For example, the child says, "Find all the racing cars, find all the grandfathers." The therapist searches for items that could belong to these symbols, asks the child to evaluate the items collected, and discusses with the child the degree to which his/her referents for the symbol communicated. The child may declare, for example, that the grandfathers were all "cutouts with corners," a referent the child learns has little chance of communicating to others.

Step 6. The child is guided and directed in imagining a situation and event within which the child engages field articulation tasks. The initial fantasy directed by the therapist relies upon the types of fantasies the child revealed in the previous two steps, as well as on the therapist's understanding of the child's unique personality functioning and learning difficulties.

To illustrate, in earlier work a child frequently imaged cutouts as weapons and "bombs exploding." When this step in the program was reached, the therapist asked the child to imagine that he is an expert on a SWAT team that has been called to a school because of a bomb threat. Different parts of the playroom are designated different parts of the school (e.g., cafeteria, principal's office, science room). The therapist arrays a matrix of stacked cutouts in each of these places in the school and asks the child to pretend that only certain stacks are real bombs set to go off and others are "fake" bombs placed there to confuse the SWAT team. Only the stacks with a large, blue square at the bottom, a medium, yellow circle in the middle, and a red diamond on top are real bombs. The child is asked to search each part of the school as quickly as possible. Each time he finds a real bomb, he is to rush it to the "defusing box" (a large cardboard box located "outside the school") where the child dismantles the bombs. With repeated administrations of this directed fantasy, the stacks are made increasingly more complex as are the definitions of "bombs," and the time the child takes to find the bombs is noted as well as the numbers of errors made.

Step 7. After a child engages in a series of directed fantasies within which the child handles field articulation tasks, the treatment process takes on the form of non-directed verbal/play therapy as discussed in Chapter 10. The goal of this step is to focus the child on actively organizing, articulating, and reforming key pathological metaphors with the benefit of efficient

cognitive controls and cognitive affective balancing.

Concluding Remarks and a Note About Resistance

With the capacity to articulate flexibly fields of information perceived as they are and construed in terms of symbols and fantasies, the child has available a cognitive tool that should improve the efficiency of learning and adapting and that should serve the non-directed process of verbal/play therapy if the latter is indicated.

As with other programs, the therapist initially trains the child, while engaging the task, to observe behaviors and emotions that compromise the efficiency of field articulation. The behaviors that occur in this program may be more subtle than those observed in previous programs. For example, having been asked to remove small, green triangles, the child may reach for, and remove, a small, green diamond or a medium, green triangle and not recognize the error until it is pointed out by the therapist. Or the child may reach out and touch a small, green diamond, then pick up and correctly remove the designated cutout. These behaviors are brought to the child's attention, bit by bit, until the child shows the ability to recognize spontaneously when field articulation functioning becomes derailed.

Subtle behaviors that signal resistance are also frequently observed when the task complexity increases, for example, from 10 to 20 cutouts or

from two sizes to three. At these times, the child may become tense (biting his fingernails) or begin to yawn frequently, or rest his head on his arms, without being aware of the change in affect. Again the child is asked to notice these responses.

As the child develops the capacity to observe and be aware of such behaviors, the therapist suggests connections between these behaviors and the particular ingredient that increased the complexity of the task. And, still later, the therapist encourages the child to relate the current task and behaviors to similar situations and behaviors that occur in school and home. Usually as children learn to generalize from the contemporary experience with a given array to the classroom, they begin spontaneously, to elaborate recent, relevant experiences. For example one child recalled that while trying to read at his seat, his attention shifted and became preoccupied with a messenger who had entered the classroom, and then shifted to a classmate who sneezed several times. As these experiences are detailed, the therapist helps the child see the analogy between actively withholding attention from irrelevant information in the array and task and actively withholding attention from the messenger and classmate.

Also, as children work with those steps which prescribe imaging and fantasies, some, especially adolescents, develop the ability to recognize that particular private thoughts and fantasies that occur in the classroom are

irrelevant to the task at hand while others are relevant. For example, one seventh grader, while working on an essay about the French and Indian War became aware that fantasies about Star War movies, which frequently occurred, were not as relevant as recollections and fantasies about conflicts between early colonial settlers and Indians.

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