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Beyond The Broken Cord: Strategies for teaching children affected by fetal alcohol syndrome

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Abstract

Michael Dorris, an author and educator, writes poignantly in his book, The Broken Cord, about his adopted son's struggle with life as a victim of Fetal Alcohol Syndrome. Dorris is one of thousands of parents who have experienced the emotional pain, the fears, and the frustrations of raising a child affected by Fetal Alcohol Syndrome. At the time Dorris wrote The Broken Cord, it was generally accepted by medical, psychological, and educational experts that efforts to change the behaviors or build independent living skills in children with Fetal Alcohol Syndrome were an exercise in futility.

Beyond The Broken Cord:
Strategies for Teaching Children Affected by Fetal Alcohol Syndrome

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Introduction

> My son will forever travel through a moonless night with only the roar of wind for company. . . . He doesn't wonder where he came from, where he's going. He doesn't ask who he is, or why. . . A drowning man is not separated from the lust for air by a bridge of thought -- he is one with it -- and my son, conceived and grown in an ethanol bath, lives each day in the act of drowning. For him there is no shore. (Dorris, 1989, p. 264.)

Michael Dorris, an author and educator, writes poignantly in his book, The Broken Cord, about his adopted son's struggle with life as a victim of Fetal Alcohol Syndrome. Dorris is one of thousands of parents who have experienced the emotional pain, the fears, and the frustrations of raising a child affected by Fetal Alcohol Syndrome. At the time Dorris wrote The Broken Cord, it was generally accepted by medical, psychological, and educational experts that efforts to change the behaviors or build independent living skills in children with Fetal Alcohol Syndrome were an exercise in futility.

However, as Kleinfeld and Wescott wrote in their book, Fantastic Antone Succeeds:

> The climate of pessimism that surrounds alcohol-affected children is unwarranted. . . . The Broken Cord has given us one face with which to understand the reality of fetal alcohol syndrome. But [Dorris' son's] face is not the only face of an alcohol-affected child. We are only beginning to understand the nature of their learning problems and how to educate them. As we learn more, we will be able to create different futures. (1993, p. 20)

The Rationale for and Scope of This Review

In recent years, the media have promoted frightening images of large numbers of drug and alcohol affected children suddenly appearing in our schools, threatening to overwhelm our educational system with their extraordinary needs. In some cases, these predictions have proven to be exaggerated (Griffith, 1992; Stevens & Price, 1992).

The original prognosis for "crack babies" and "cocaine babies" was as dismal as the educational prospects first offered for children affected by Fetal Alcohol Syndrome (FAS). However, recent studies of the effects of intensive intervention on the cognitive and social development of children prenatally affected by crack or cocaine have indicated that a stimulating, nurturing environment can often greatly diminish the effects of their exposure (Griffith, 1992). It is not yet known if the effects of their prenatal exposure are permanent (Soby, l994).

While the prospects for educating children with FAS are not as bleak as first thought, it has been determined that the mental and physical impairments caused by prenatal exposure to alcohol are permanent. All children with FAS have suffered brain damage and are mentally retarded to some degree (Asetoyer, 1993; Morse, 1993; Soby, 1994). FAS is "now recognized as the leading known cause of mental retardation" (Burgess & Streissguth, 1991, p. 1), and the number of children diagnosed with FAS each year is increasing. A nurturing environment is certainly preferable for any child, but the skills and abilities of a child with FAS will not noticeably improve simply by providing them with a loving, accepting atmosphere (Dorris, 1989;

Parmet, 1992; Soby, 1994).

However, as Kleinfeld and Wescott (1993) noted, the supposition that nothing can be done to educate children with FAS is changing. Contrary to early assumptions, there have been educational strategies identified that can be used successfully by parents, care-givers, and teachers to build the social and cognitive skills the children need to move towards independence. These strategies have been identified, not in carefully controlled experiments or long-term scientific research, but in the classrooms and homes where FAS children live and learn.

There have been literally thousands of scholarly papers written describing the etiology and symptoms of Fetal Alcohol Syndrome since it was first identified in the United States nineteen years ago (Morse, 1993). Very few scholarly articles have been written about the educational strategies that are effective for teaching these children. In the generous tradition found among educators of young children, teachers, parents, and care-givers have been eager to share their successful techniques with others who are faced with the challenges of teaching children with FAS.

The following review reflects this lack of scholarly study. The information about FAS as a medically acknowledged syndrome comes from sources that have used scientifically accepted methods to gain their information. The information concerning successful educational methods comes almost exclusively from anecdotal records and informal research stemming from direct contact with FAS children in homes and classrooms.

Although the information about educational techniques has not

been tested through long-term, carefully controlled study, it is interesting to note that the results of these informal efforts are repeated over and over again by teachers and parents who have stumbled upon these techniques while working with affected children.

> Many parents and teachers who have not communicated with each other have come up with similar techniques which they find effective for alcohol-affected children. We need careful,controlled studies of the effectiveness of educational programs based on such techniques. But the need for scientific knowledge should not stop us from celebrating and using the wisdom of practice that parents and teachers offer. (Kleinfeld & Wescott, 1993, p.20)

Because of the consistency in the findings, and because of the great importance of identifying and sharing educational practices that are appropriate for the growing number of diagnosed FAS children in our schools, these resources are judged as valid sources of information in this review.

The following review of information will describe the cause of Fetal Alcohol Syndrome, the physical and mental characteristics used to diagnose FAS, and the behaviors that are often exhibited by children with FAS. There will be a description of the educational strategies that have been found to succeed with children with FAS, as well as a discussion of implications for further study in the area of education for children affected by Fetal Alcohol Syndrome.

The Cause of Fetal Alcohol Syndrome

Fetal Alcohol Syndrome is caused by the ingestion of alcohol by women during pregnancy. Research into the teratogenic effects of drinking alcohol during pregnancy has consistently found that children with FAS are born to mothers who are chronic alcoholics. However, not all children born to alcoholic mothers have FAS (Greene, et.al., 1991). It is estimated that only forty percent of the children born to alcoholic mothers will show the diagnostic features specific to FAS (Asetoyer, 1993).

Furthermore, many of the physical and mental symptoms of FAS are found in children whose mothers may have drunk less alcohol during their pregnancies than mothers who are considered "chronic alcoholics." In these children, the symptoms may be milder, and the physical characteristics may be less pronounced or absent, giving rise to a diagnosis of Fetal Alcohol Effects (FAE). FAE symptoms are considered less severe than those of FAS, but the social and educational problems facing children with FAE are often no less daunting.

Efforts to determine how much alcohol must be consumed to produce a child with FAS have been unsuccessful. Much of the research depends on self-reports to gather information about the drinking habits of mothers of FAS children. Self-reporting is known to be subject to underestimation and denial. Other indices may be used in conjunction with self-reports to arrive at a more accurate description of drinking behavior, but even these safe-guards may not produce an entirely accurate picture (Green, et al., 1991).

Studies designed to determine when particular types of damage are done to a fetus by its mother's ingestion of alcohol have also met with little success. Women who drink enough to produce children affected by FAS or FAE generally have established their drinking patterns before the conception of their child, and do not stop drinking during their pregnancy. Therefore, establishing the specific type and amount of damage done to a fetus when it is insulted by alcohol at a particular point in gestation is difficult. It is not known if the effects of alcohol on the fetus occur only at the time of the insult, or if the effects are cumulative and/or exacerbated by previous and future contacts with alcohol in the womb.

In addition, the results of studies on women who report drinking only socially (no more than two drinks per day) show that their children, although not affected by FAS or FAE, are still at greater risk for cognitive and/or behavior problems than children born to mothers who do not drink alcohol at all (Burgess & Streissguth, 1992; Greene, et al., 1991).

In answering the question of how greatly the fetus will be damaged by alcohol consumption at a particular point during gestation, the only statement that can be made with certainty is that whatever fetal developmental process is in progress at the time of the insult will be disturbed in some way.

Because of the difficulties researchers have encountered in determining if there is a specific amount of alcohol that a pregnant woman can drink without damaging her fetus, or if there is a time during pregnancy that alcohol can be consumed without causing harm to the fetus, women are encouraged to abstain from alcohol completely during their pregnancies (Burgess & Streissguth, 1992; Parmet, 1992). "The

conclusion must be drawn that there is no known safe level of alcohol consumption during pregnancy. FAS and FAE are preventable, [and] abstinence is the only way to guarantee that a baby will suffer no ill effects from alcohol" (Burgess & Streissguth, 1992, p. 24).

Symptoms of Fetal Alcohol Syndrome

The symptoms required to make a medical diagnose of Fetal Alcohol Syndrome fall into three categories: (a) growth deficiency, (b) facial dysmorphia and other physical abnormalities, and (c) central nervous system dysfunction/neuropsychological impairment (Asetoyer, 1993; Burgess & Streissguth, l992; Greene, et al., 1991; Parmet, l992; Soby, 1994). Growth deficiency is often first identified by low birth weight. Babies born to alcoholic mothers usually show retarded prenatal growth (Soby, 1994). These babies are often born prematurely, and are small even for their premature status. Infants who are affected by FAS often suffer from failure to thrive. As they grow into young childhood, their growth rate usually falls below the tenth percentile on medical growth charts. They remain small in stature, often appearing undernourished even when they eat regular, well-balanced meals. Parents talk of their children's stick-like arms and legs, their bony knees and elbows, their prominent ribs (Caldwell, 1993; Dorris, 1989).

The facial dysmorphia associated with FAS includes specific physical anomalies:

1. small head circumference,
2. epicanthal folds and ptosis (drooping eyelid),
3. small palpebral fissures (eye slits), giving the appearance of wide-set eyes,
4. flattened nasal bridge and mid-face,
5. small, short, up-turned nose,
6. extended distance between the nose and upper lip, with a smooth philtrum,
7. thin upper lip, and
8. underdeveloped lower jaw, giving appearance of pointed chin

(Dorris, 1989; Greene, et al., 1990; Parmet, 1992; Soby, 1994).

These facial characteristics produce the distinctive appearance that identifies children affected by FAS, much as the children who have Down's Syndrome share common facial features. Other physical anomalies are also known to affect children with FAS, depending on the severity of their condition. These physical anomalies may include skeletal abnormalities, stiff joints, abnormalities of the eyes, mouth, and/or ears, renal abnormalities, cardiovascular abnormalities, and immune system dysfunction (Asetoyer, 1993; Morse, 1994; Soby, 1994).

Central nervous system dysfunction/neuropsychological impairment is the third category used to identify Fetal Alcohol Syndrome in children. The symptoms of central nervous system dysfunction in

children with FAS include microencephaly, hydroencephaly, and mental retardation (Burgess & Streissguth, 1992; Dorris, 1989; Greene, et al., 1990; Greene, et al., 1991; Soby, 1994).

The neuropsychological and behavioral problems related to the central nervous system dysfunction are not necessarily exclusive to Fetal Alcohol Syndrome. However, clusters of these symptoms and behaviors occur with enough consistency in FAS children that they have become accepted as part of the diagnostic procedure. The neuropsychological and behavioral symptoms linked to FAS include:

1. speech and language disorders,
2. decreased attention span, Attention Deficit Disorder (ADD), and/or Attention Deficit Hyperactivity Disorder (ADHD),
3. clumsiness,
4. poor eye-hand coordination,
5. poor eye contact,
6. sleep disturbances,
7. visual and/or hearing impairments,
8. head and body rocking,
9. perseveration,
10. insecure attachment patterns,
11. poor, inconsistent, unpredictable memory,
12. limited abilities in abstract reasoning and generalization,
13. limited ability to learn from prior experience,
14. limited ability to predict consequences,
15. short-term, sporadic, unpredictable skill mastery,
16. hypersensitivity to visual, aural, or tactile stimulation,

17. difficulty organizing information, impaired sequencing skills,
18. poor (or no) impulse control, and
19. inappropriate or non-adaptive social skills

(Soby, 1994; Smith, 1993; Groves, 1993; Caldwell, 1993; Morse, 1993; Barth, 1991; Pinkerton, 1991; Stevens & Price, 1992; Burgess & Streissguth, 1992; LaDue, 1992; Dorris, 1989; Greene, et al., 1990; Coles, et al., 1993; Villareal, et al., 1992)

This category of symptoms clearly has wide-ranging consequences for the education of children with FAS. Disturbances in the neurological development of the fetus have permanent effects on the child, contributing to behaviors and creating limitations that threaten their ability to function independently in the world. These are the symptoms and behaviors that require careful remediation. The techniques that educators have found to be helpful address many of these neuropsychological and behavioral limitations.

Successful Educational Techniques for Children Affected by FAS

The behaviors and cognitive limitations indicative of FAS that are of greatest concern to teachers can be grouped into five main categories: (a) language reception and processing problems, (b) difficulty in organizing and/or sequencing information, (c) hypersensitivity to the environment, (d) short attention span and low impulse control, and (e) non-adaptive social behaviors. The research on successful educational techniques that address these concerns is limited primarily to the

classroom experiences of teachers and the anecdotal records of teachers, parents, and care-givers.

While these experiences may not be considered scientifically meaningful, they have been replicated in classrooms and homes across the United States by teachers and parents who have had no contact with each other. Until we have examined the problems involved in teaching children with FAS in a scientific manner, the information gathered by these concerned adults should be considered significant and worthy of investigation (Lutke, 1993; Kleinfeld & Wescott, 1993).

The following is an examination of techniques that have been reported to be successful in addressing the challenges inherent in teaching children affected by Fetal Alcohol Syndrome.

General Strategies

There are a few over-arching strategies that have been found to be very important in addressing the needs of children with FAS. The most often identified strategy for teaching alcohol-affected children is consistency: consistency in the child's environment, in the child's schedule, in rules governing behavior at home and at school, and in consequences for breaking the rules.

Ann Streissguth (as cited in Dorris, 1989) supports this technique whole-heartedly with her exhoration, "STRUCTURE! STRUCTURE! STRUCTURE!" (p.37). This advice is repeated by educators and parents as the most important tool in helping a child affected by FAS cope with

the world.

Children prenatally affected by alcohol have difficulty predicting the consequences of their own actions or the actions of others (Burgess & Streissguth, 1992; Hayne, 1993; LaDue, 1992; Smith, 1993; Stevens & Price, 1992). Many do not comprehend that predictable consequences follow the laws of nature and the laws of man. To the child with FAS, things just happen with no apparent rhyme or reason. Their vision of an unpredictable world leaves them feeling powerless, frustrated, and anxious (Dorris, 1989; Hayne, 1993; Lutke, 1993; Murphy, 1993).

Teachers and parents have found that establishing highly structured routines and following them consistently is helpful in allowing children with FAS feel comfortable and in control. As Dorris observed in his son, "a situation was comfortable for him when it became rote, troubling . . . when it wasn't" (p.120). When FAS affected children feel that their environment is predictable and safe, they are more likely to be able to concentrate on learning (Morse, 1993).

It is suggested that the routines established for FAS children be observed as rigidly as possible. Changes in any routine, whether it be the routine for getting dressed in the morning or the routine of the school schedule, should be introduced slowly and with careful attention to preparing the child for the change. Activities should occur at the same time each day, and last for approximately the same amount of time (Smith, 1993). Children affected by FAS should be allowed to sit in the same chair in the same place in the classroom for the entire school year (Caldwell, 1993; Morse, 1993). It is helpful if learning centers and

classroom supplies remain in the same places all year long (Morse, 1993).

Children should be warned about impending transition times, and transition signals or activities should be carefully planned and consistently used (Griffith, 1992; Kvigne, et al., 1993; Soby, 1994; Villareal, et al., 1992). Changes in the classroom schedule should be avoided, and disruptions that cannot be avoided should be thoroughly discussed several times before they actually occur (Kleinfeld & Wescott, 1993; Lutke, 1993; Villareal, et al., 1992).

Rules governing behavior should be clearly stated and few in number (Caldwell, 1993; Griffith, 1992; Kvigne, et al., 1993). Ideally, cooperation between the child's home and school would guarantee that the rules and the consequences for breaking them would be the same in both places (Best, 1993; Griffith, 1992). Even the tone of voice that a parent or teacher uses to express displeasure at a child's misbehavior should, as much as possible, be the same each time he or she disciplines the child (Caldwell, 1993; Lutke, 1993).

The parent of a child affected by FAS states, "Most alcohol-affected children cannot handle change" (Lutke, 1993, p. 78). These suggestions for incorporating a large degree of consistency in an FAS child's life may decrease the number and intensity of changes the child must face, making it possible for the child to perceive the world as a more predictable, comfortable, safe place in which to live.

Other general strategies that are considered essential for success in teaching children with Fetal Alcohol Syndrome include patience, perseverance, and persistence. These personality characteristics are

desirable in anyone who teaches young children, but each of these characteristics will be tested and stretched to an extraordinary degree in any classroom, home, or child care situation that includes alcohol-affected children. One-to-one interaction is often sited as the ideal method for achieving success in teaching FAS children (Los Angeles School District, 1990; Lutke, 1993; Odom-Winn, et al., 1991; Soby, 1994). However, extended individual contact can be exhausting and can quickly lower a teacher's emotional resources.

The psychological and emotional demands of raising and/or teaching children with FAS are sometimes overwhelming (Soby, 1994). A person who teaches FAS children will need vast resources in the areas of patience, perseverance, and persistence.

Strategies Addressing Language Reception and Processing Problems

One of the most frustrating problems for both FAS children and the adults who work with them is the difficulty children affected by FAS have with cognitive language skills. An FAS child often can parrot perfectly the verbal instructions he has just been given, and yet have no idea what is expected of him. At another time, the child may appear to understand the instructions, yet proceed to do something entirely unrelated. On yet another occasion, the child may listen to instructions, appear to understand them, and yet perform only a fraction what she was told to do. In each case, ". . .the child is fully aware that he/she is not doing something right but cannot determine the appropriate response. Often,

when asked to repeat the instruction, the child will do so word for word but still cannot complete the task" (Morse, 1993, p.31). To complicate this picture even further, children affected by FAS often have verbal language skills that far outdistance their comprehension level or their ability to communicate effectively (Burgess & Streissguth, 1992; LaDue, 1992; Morse, 1993). This gives them the appearance of being more knowledgeable and capable than they truly are, but, as Michael Dorris observes, ". . .[children with FAS] don't know what they're talking about" (1989, p.154).

The behavior that results from this discrepancy between language reception skills, processing skills, and expressive skills is often viewed as willful misbehavior or non-compliance (Hayne, 1993; Morse, 1993; Soby 1994). In fact, because of the damage done to the brain of an alcohol-affected child, the ability of the brain to process incoming information is often severely limited (Burgess & Streissguth, 1992; Soby, 1994). The brain of a child affected by FAS may not be able to process and interpret information effectively and/or efficiently, therefore specific strategies must be used and taught to FAS children to help them compensate for their limitations.

Children affected by FAS are often unable to process more than a small amount of information at any one time. When explaining a concept or task to children with normal brain function, it is accepted that their understanding will increase in direct proportion to the amount of relevant information they are given about the concept or task. With FAS children, the opposite is true. They are unable to process, in fact seem incapable of even receiving, more than a few pieces of information at a time

(Kleinfeld & Wescott, 1993; Lutke, 1993; Morse, 1993). They will virtually "shut down" when they feel overwhelmed with information. This may lead to behavior such as emotional withdrawal, ignoring, walking away in the middle of instructions, even aggressive behavior (Griffith, 1992).

Several techniques that make information more accessible to children affected by FAS have been identified. The first is to give information in very small increments. For instance, when giving a child instructions for a task, it is best to break the task down into small steps, and ask the child to complete only one step at a time (Best, 1993; Lutke, 1993; Morse, 1993; Villareal, et al., 1992). Several teachers and parents have reported that charts listing the steps involved in each task have been helpful. These charts often consist of pictures (photographs, pictures cut from magazines, drawings) and a few words describing each step. The child can be taught to follow the instructions on the chart, referring to each subsequent step, until the task is completed. This same process can be replicated for older children by using sets of "cue cards," index cards containing pictures and instructions for each step of a task. These cards are attached to each other in such a way that they remain in the appropriate order for completing the task (Lutke, 1993).

This process takes a great deal of time, energy, and persistence on the part of the parents and teachers. The child needs to be led through the steps with one-on-one guidance many times before he or she is ready to try to follow the chart independently. Some children have been able to condense the steps in their charts down to fewer steps, but this kind of progress comes extremely slowly (Villareal, et al., 1992).

Another technique that is successful in helping FAS children process information is to use very simple, straight forward language. The fact that many of these children have fairly strong verbal skills makes it difficult for adults to remember that the childrens' processing skills are limited, and that they cannot understand instructions given in language that requires higher level comprehension (Soby,1994).

Alcohol-affected children usually have great difficulty understanding abstract concepts (Burgess & Streissguth, 1992; LaDue, 1992). Therefore, using colloquialisms and slang phrases when speaking to them often confuses them. In other words, if you want a child to zip up his pants, you should not tell him his barn door is open. He will not understand the message you are trying to convey. The most effective way to make him understand is to simply tell him to zip up his pants (Caldwell, 1993; LaDue, 1992; Los Angeles School District, 1990; Soby, 1994).

In addition to using simple, concrete language, one should be careful to ask of alcohol-affected children only that behavior which is desired from them. Behavior that is not desired should not be mentioned. For instance, it is more effective to tell an FAS child, "Hang your coat on your hook" or "Put your feet on the floor, please" as opposed to "Don't leave your coat lying on the kitchen floor" or "Don't put your feet on the wall." Children affected by FAS think in literal, concrete terms. When told not to leave a coat on the floor, the FAS child may pick it up and put it back on or carry it around, with no concept of the appropriate action to take with the coat (Lutke, 1993).

Although some FAS children have excellent expressive language

skills, they may become frustrated at times because of their difficulties in translating ideas into terms that are understood by others. As Morse, an assistant research professor of psychology at Boston University School of Medicine who has studied the language processing difficulties experienced by FAS children notes: "They try to make sense out of what their brain is telling them, but that seldom makes sense to the rest of the world" (1993, p.34). Many parents and teachers have found that sign language can be a useful tool in helping children bridge the gaps in their communication repertoire (Groves, 1993; Kvigne, et al., 1993; Los Angeles School District, 1990; Soby, 1994). The signs used may be as simple as pointing or pantomiming, or as sophisticated as American Sign Language learned from observing deaf siblings or schoolmates (Groves, 1993). Signing can be used easily with verbal speech, and is concrete and visible (Kvigne, et al., 1993).

Closely related to using sign language for communicating with FAS children is the need to use a variety of clear, expressive non-verbal communication techniques when teaching them. Facial expressions and body language that clearly indicate the teacher's feelings and intent are important tools in helping the FAS child interpret the message that is being sent. Establishing and maintaining eye contact while talking to the child is essential for the child's comprehension and for insuring that he realizes the message is specifically for him. The tone, volume, and pitch of the teacher's voice should also match the intensity and importance of the information being expressed (Caldwell, 1993; Kleinfeld & Wescott, 1993; Los Angeles School District, 1990; Lutke, 1993; Odom-Winn & Dunagan, 1991).

Because children affected by FAS have difficulty receiving and processing language, a technique that has been used successfully in many classrooms is that of using multi-sensory, activity based teaching methods. Teachers and parents have found that using a variety of kinesthetic, visual, and auditory methods for conveying a piece of information makes it more likely that the child will understand the information. Manipulatives, modeling clay, finger paints and brush paints, balls of different textures, music, dance, dramatic readings, tape and video recordings, role playing, modeling, movies, photographs, musical instruments, water, sand, brightly colored scarves, or any object or activity that promotes the use of multiple learning styles is considered preferable to merely telling the child something (Best, 1993; Hayne, 1993; Kvigne, et al., 1993; Los Angeles School District, 1990; Soby, 1994; Villareal, et al., 1992).

The importance of using as many of the senses as possible when teaching FAS children includes, again, the use of exaggerated body language, gestures, and facial expressions, as well as vocal intonations that are consistent with the information being given verbally and non-verbally (Lutke, 1993).

Teachers are aware that the use of multi-sensory teaching methods is beneficial for all children. However, this is especially true for children affected by Fetal Alcohol Syndrome. As with other methods and techniques, the degree of need displayed by the FAS child for methods that use all the senses and appeal to several learning styles is far greater than the degree of need shown by "normal" children (Kvigne, et. al, 1993; Los Angeles School District, 1990; Morse, 1993; Soby, 1994).

Strategies for Addressing Organization and Sequencing Difficulties

Because of their prenatal exposure to alcohol, children affected by Fetal Alcohol Syndrome have difficulty in organizing and/or sequencing ideas or information.

> In essence, alcohol-affected children suffer from organic brain damage that makes it difficult for them to take in information, . . . organize the information in an integrated or sequential fashion, and respond to the signal with the right routine. (S)ometimes the information does not get put into memory. Sometimes the child perseverates, . . . makes odd noises or does strange things, like a malfunctioning computer that goes blank and then flashes random symbols. (Kleinfeld & Wescott, 1993, p. 321)

Many of the problems that children affected with FAS experience in organizing and sequencing information can be addressed with the same strategies identified for addressing language skill difficulties. The techniques most successful in helping FAS children cope with organization and sequencing of information are those techniques which ". . .fundamentally simplify the information that the child must deal with at any one time" (Kleinfeld & Wescott, 1993, p. 321).

The importance of highly structured environments and routines cannot be overstated. Carefully controlled, consistent routines and a stable, predictable environment reduce the amount of new information a child must process at any one time. Children affected by Fetal Alcohol Syndrome will sometimes perseverate on a behavior, a phrase, or on their manipulation of an object. This behavior in FAS children is thought to be a result of information overload caused by exposure to too much

information or other stimulation at one time (Best, 1993; Caldwell, 1993; Kleinfeld & Wescott, 1993; Morse, 1993).

Keeping the daily schedule consistent and alternating short instructional periods with physical activity or quiet relaxation helps keep children affected with Fetal Alcohol Syndrome from becoming overwhelmed or fatigued (Hayne, 1993; Kvigne, et al., 1993; Los Angeles School District, 1990; Lutke, 1993; Powell, 1992).

Using simple, concrete language and giving instructions in small increments is very helpful. Breaking a task down into small steps and presenting the steps one at a time keeps the task from appearing insurmountable. Again, using charts, cue cards, or a series of pictures mounted in a photo album may help a child organize information and maintain a proper sequence of activity (Lutke, 1993).

Severely affected children may need the additional stimulation of being physically assisted in performing tasks until they have internalized the procedure. This assistance may involve the teacher verbally alerting the child of the need to perform a task (i.e., "Hang your coat on your hook, please"), the teacher leading the child to the coat, the teacher covering the child's hand with his/her own hand, the teacher placing the child's hand on the coat and making sure the child grasps the coat, the teacher leading the child to the hook and assisting the child in hanging the coat on the hook while still covering the child's hand with his/her own (Kvigne, et al., 1993; Los Angeles School District, 1990; Odom-Winn & Dunagan, 1991). This attempt at imprinting a specific response to a verbal request on the child's memory will need to be repeated many times, consistently using the same words and procedure, in order to be

successful. However, it eventually may be successful where simple vocal instruction has failed (Kvigne, et al., 1993, Odom-Winn, 1991).

Teachers and parents have found that it is best to minimize the number of choices an alcohol-affected child must make, and to limit the number of options available to them when they must make choices. An opportunity for free play time in a room filled with toys can leave an FAS child stunned, causing him to withdraw, cry, or become frantic. Narrowing their list of alternatives in any situation makes alcohol-affected children feel less anxious and more in control of themselves and their environment (Best, 1993; Hayne, 1993; Murphy, 1993).

The number of extraneous objects and decorations in the classroom should be kept to a minimum. At the very least, their number and positions should remain constant. New learning materials should be brought out only as they are needed. Materials, toys, and supplies that are not in use should be kept out of sight if at all possible. If it is not possible to hide them, they should be stored in the same places whenever they are not in use (Best, 1993; Caldwell, 1993; Los Angeles School District, 1990; Villareal, et al., 1992).

Closely related to an FAS child's difficulty in screening and organizing information is the lack of facility the child may exhibit in sequencing events or ideas. The concept of order seems to be one that most children affected by FAS have great difficulty comprehending, whether it involves the order of steps needed to complete a task, the order of the days or months or seasons, or the social skill of taking turns (Morse, 1993).

To help a child manage situations in which correct sequencing is

important, teachers and parents have found several techniques to be helpful. Again, charts, cue cards, or pictures in photo albums that break a task down into small, correctly sequenced steps have been found to be helpful. These visual aids need to be explicit, and the tasks often need to be broken down into extremely small steps. For example, one parent made a chart with pictures that helped her daughter learn the correct sequential procedure for brushing her teeth. The chart listed seventeen steps. After a year, the girl was able to remember some of the steps on the chart without the visual prompting, and the chart was remade showing only eleven steps (Villareal, et al., 1992).

Repeating information verbally in the same order that the child needs to remember it or act on it, as well as providing visual aids and prompts will assist the child in making connections between steps or ordered concepts. Giving the information in the same way each time, using the same tone of voice, the same words to capture the child's attention and deliver the information, the same chart or cards, the same visual or verbal prompts all will help the child develop a grasp of the fact that particular steps or actions are to be performed in a particular sequence in order to reach the desired goal (Kleinfeld & Wescott, 1993; Los Angeles, 1990; Lutke, 1993).

Other types of visual aids have been found to help children affected with Fetal Alcohol Syndrome complete tasks that require sequencing. Using bright colors to identify each step of a process can be helpful for children who respond well to color. Using a constant sequence of colors to denote a sequence may imprint the sequence in the child more quickly and make it easier for him to generalize the

sequence to other tasks. For instance, if the first step is always identified by the color red -- red paper that the information is listed on, red paper covers on the first book he is to take from his desk, red marker that is used to write the information for the first step on the chart -- he may be able to transfer the concept that "red means step one" to other tasks. This effort is time and labor intensive, but may work with children who respond in a positive manner to bright colors (Hayne, 1993; Kleinfeld & Wescott, 1993; Lutke, 1993).

Many children with FAS have difficulty understanding the passage of time, or that our way of noting the time is with a sequence of numbers or names of days and months. One parent reported that her son, although he knew how to read the correct time from a clock or watch, did not understand that 10:55 is the same as five minutes to eleven. Nor was he able to comprehend that 10:57 would follow soon after 10:55. To this child, if he did not happen to look at the clock when it read 10:57, then 10:57 did not occur. The numbers that gave others information regarding the time of day were simply random numbers to him. He had no grasp of the sequential manner which marks our system of identifying the passage of time (Murphy, 1993).

Another child had difficulty grasping the amount of time that would have to pass before an important event. It was difficult for him to identify individual days or to comprehend that days have specific names and pass in a sequential order each week. For children like these, the use of physical objects to represent the passage of time may help. One teacher would put three to five objects on her student's desk five minutes before he was to leave for his appointment with another teacher. As each

minute passed, she would remove one object. This gave the child a warning that a transition time was approaching, and gave physical substance to the time left before the transition would occur (Lutke, 1993).

For the child who needs visual representation of the passage of days, calenders may be helpful. Allowing the child to mark off each day on the calender before getting into bed may make the weekly sequence more real to her. A parent found that, by attaching small pieces of hard candy to the calender on each day that had to pass before an exciting or anxiety-producing event, their child was able to note the passing of the days in a meaningful manner by removing and eating the candy at a regular time each day. This allowed the child to feel pleasure and anticipation in the passage of the time, and also feel some degree of control over his environment (Caldwell, 1993).

Strategies for Helping Children Affected by Fetal Alcohol Syndrome Cope with Hypersensitivity to Their Environment

Children affected by Fetal Alcohol Syndrome often display a hypersensitivity to their environment that can interfere with their education, their social development, and their ability to move comfortably in the world. Because hypersensitivity will inevitably interfere with the child's ability to concentrate, parents and teachers have found that they must find ways to alleviate the child's discomfort and assist the child in becoming desensitized to environmental stimulation (Odom-Winn & Dunagan, 1991). The types of hypersensitivity that are most often noted

are visual, auditory, and kinesthetic sensitivity. Each type of sensitivity can be addressed in specific ways to help the child feel more comfortable, less distracted, and better able to learn.

Hypersensitivity to visual stimulation can be addressed in several ways. Consistency of the environment again is of great importance. In the classroom, decorations should be kept to a minimum. Posters or charts should serve specific purposes, such as identifying learning stations or listing school rules. These posters should remain in the same places during the year. Seasonal decorations, if used at all, should be changed gradually and with much discussion about the reasons for the changes (Murphy, 1993).

The rule of *a place for everything and everything in its place* makes the classroom much more comfortable for the FAS child. Clutter is a visual stimulation that often distracts all children, and children affected by fetal alcohol syndrome are even more susceptible.

Allowing the child to sit in the same seat in the same place in the room all year also reduces the amount of new visual stimulation to be absorbed. This simple strategy helps provide the child with the same, predictable view of the room every day.

Most FAS children show some sensitivity to bright colors, and they should be used sparingly. Some teachers recommend using bright colors as signals or attention getters, using them to attract a child's attention to a specific area or activity (Odom-Winn & Dunagan, 1991; Villareal, et al., 1992). If a child's reaction to a specific color is so intense that it creates a barrier to his success in the classroom, Odom-Winn and Dunagan suggest a system for desensitizing the child to the color

through a series of carefully planned, gradual exposures to the troublesome color.

For instance, they worked with one child who screamed and fought whenever she saw white glue. After talking to the parents, they deduced that it was the color of the glue that upset the child. The white of the glue literally made her gag. They began exposing the child to white glue during daily art activities. They began by making the child just look at the glue briefly, to increasing the time she could look at it without screaming, to eventually getting the child to touch and use the glue. This process took a great deal of time and persistence, but was successful (Odom-Winn & Dunagan, 1991).

Children who are easily distracted may need to be seated so that they cannot easily look out of windows or doors in the room. Doors should be closed during times of activity in the hallway. Windows present a different challenge.

Teachers with classroom windows that look onto a park, a field, a grassy area, or other attractive view often feel that the pastoral picture is soothing to all the children, including children affected by Fetal Alcohol Syndrome. However, teachers also soon become aware of times when an FAS student is too easily distracted by visual stimulation. For these situations, it is best to have drapes that can be drawn across the windows, blocking the extra visual stimulation from view.

Auditory hypersensitivity has been noted in some children affected with fetal alcohol syndrome to an extraordinary extent. These children often talk of hearing noises that no one else can hear or had noticed. It has been substantiated that some have the ability to hear the heartbeats

of persons in their immediate area. This sensitivity makes it extremely difficult for them to screen out unimportant auditory input, and to concentrate on what is important (Best, 1993; Kvigne, et al., 1993). Teachers have found that encouraging the children to use soft ear plugs, ear muffs, headphones used to screen out loud noises, or earphones attached to small tape recorders have helped some FAS children concentrate (Kvigne, et al., 1993; Odom-Winn & Dunagan, 1991).

Some of the children who are especially sensitive to sound form strong attachments to particular songs. Using these songs to gain or refocus a child's attention can be a useful technique (Odom-Winn & Dunagan, 1991).

If possible, avoid the occurrence of sudden, loud sounds in the classroom. The sound of the fire alarm startles and frightens many young children. It could send a child with FAS into a screaming episode, an act of aggression against a classmate, or a physical and emotional withdrawal. Talking to the child about impending fire drills several times in the weeks before the drill occurs may help the child be better prepared for the actual event. Also, if the child can be allowed to hear short blasts of the horn several times in the days before the drill occurs, it may help the child cope with the extended duration of the noise during the drill.

The use of a consistent tone of voice will also help the child who is hypersensitive to auditory stimulation. Parents and teachers have found it useful to develop a specific vocal tone, inflection, and pitch that they can use to quickly gain their child's or student's attention. This is especially useful at times when the child is in immediate danger. One parent reports: "I use a change in voice tone -- making my voice one

notch louder and one notch deeper and saying, 'Sit down now!' When my daughter was running in front of a school bus, for example, I called 'Sit down now' and she dropped like a shot in the middle of our driveway" (Lutke, 1993, p. 84).

Kinesthetic or tactile hypersensitivity is often found in children affected by FAS. This condition often leads to confusion on the part of teachers and classmates of FAS children. On one hand, young children affected by FAS are often very physical in their expressions of affection. They seem to have a great need to hold, to hug, to touch, to be physically close to others, especially adults. Yet, at the same time, they may react defensively or violently to being touched by others (Caldwell, 1993; Dorris, 1989; Hayne, 1993; Powell, 1992).

Children with FAS are often very sensitive to stimulation of their skin. One mother of an FAS child could not understand why her son spent so much of his time slouching forward with his shoulders hunched. It wasn't until the boy became more adept at verbalizing his feelings that she found out that he didn't like the way the tags on the inside of his shirt collars felt against his neck. FAS children exhibit this sensitivity to tactile stimulation by demonstrating what one teacher called "tactile defensiveness," which included pushing away gestures of friendliness that involved touch or other gentle physical contact (Lutke, 1993). At the same time, these children may appear to enjoy rough and tumble physical contact with adults or playmates, perhaps because the touch they experience in these situations is firm and definite. However, this type of play usually overstimulates the child if it lasts for very long (Dorris, 1989).

To desensitize a child who is hypersensitive to tactile stimulation, it is suggested that friendly touch that is initiated by the child be gently returned and praised. It is also recommended that gentle touch should be initiated by the teacher at the beginning of the year and slowly increased in frequency as the child becomes more comfortable with touch during the year. Adult-initiated touch could include touching the child's shoulder, arm, or hand to get his attention, shaking his hand, giving the child a "high five," or patting his hand. These touches could slowly increase in frequency, and the touch could increase in intimacy until the child is able to tolerate and enjoy a level of contact that will allow him to be in close proximity to adults and classmates without anxiety or aggressive reactions to friendly or accidental touch (Kvigne, et. al, 1993; Odom-Winn & Dunagan, 1991).

Tactile hypersensitivity to other textures can be dealt with in the same manner. Desensitizing children to textures that they must frequently come in contact with during everyday life will allow them to be less anxious and better able to concentrate on learning (Odom-Winn & Dunagan, 1991).

Alcohol-affected children who are in a desensitizing process, or children who are not hypersensitive at all times but exhibit occasional hypersensitivity, may sometimes become so overwhelmed by their environment that they feel the need to withdraw. Some teachers have suggested that providing a safe place for FAS children to go when they feel overstimulated can add to their feeling of control. This safe place may be as simple as three pieces of cardboard taped together and set up like a study carrel on the child's desk, or it may be as involved as a

special place in the room designated as the child's own private place. Some children prefer to retreat to a small enclosed place, such as under a table or in an out of the way corner. Others prefer even closer confines and may find climbing inside a sleeping bag or being covered with large blanket comforting. As children become desensitized to environmental elements that upset them, they will probably retreat to these safe places less often (Hayne, 1993).

Strategies for Addressing Impulsiveness and Short Attention Spans in Children With Fetal Alcohol Syndrome

The impulsiveness of FAS children is one of the most troubling symptoms of Fetal Alcohol Syndrome. The children seem to have no fear, no concept of consequences, and no feelings of remorse when they have done something wrong. They are very susceptible to suggestion, and will do things that seem untenable, even to others of their own age. FAS children, especially those diagnosed with Attention Deficit Hyperactivity Disorder, are likely to act immediately on any thoughts that enter their heads, without the mental screening process that normal children use to decide if a particular action would be wise (Burgess & Streissguth, 1992; Dorris, 1989; LaDue, 1992).

These characteristics are the result of the brain damage caused by prenatal alcohol exposure. Children affected by Fetal Alcohol Syndrome do not have the ability to connect their actions to the results, or consequences, of those actions. They therefore cannot learn from their

mistakes or the mistakes of others. They do not learn from previous experience (Burgess & Streissguth, 1991; Dorris, 1989; Kvigne, et al., 1993; LaDue, 1992; Stevens, 1992).

Their inability to predict consequences includes the consequences of the their own actions, the actions of others, and the consequences that are a result of the laws of nature. They have no concept of predictable outcomes. To children affected by Fetal Alcohol Syndrome, each situation is entirely unique. Michael Dorris described his son's inability to predict consequences or generalize outcomes this way:

> The process of his thinking often seemed to lack movable parts, building blocks that could be manipulated at will to form new constructions. Each unprecedented event was perceived as a wholly original situation, not as simply one within a flexible set of shifting possibilities. (Dorris, 1989, p. 246)

Their fearlessness and lack of remorse can be viewed as a result of this inability to connect actions and consequences. To an FAS child, the fact that she was nearly hit by a car the last two times she walked into the street without checking for traffic does not generalize to the concept that she should check for traffic before crossing the street this time. An alcohol-affected child also sees no connection between his theft of a classmate's favorite pen and and the anger the classmate directs toward him. If the pen was unattended (meaning it was not in someone else's hand at that precise moment), then the FAS child's perception is that the pen is available for the taking (Dorris, 1989; Morse, 1993).

This type of behavior is cause for concern because of the potential for classroom disruption, and also because it often puts the children into immediate danger. Not only are they unable to predict the consequences that will result from their actions, but they are very susceptible to dares involving dangerous behavior from other children, to the suggestions of older children who wish to use them as scape-goats for illegal activity, and to the attention of sexually abusive adults.

It is very difficult to help children develop a sense of responsibility when they have no concept of consequences. However, parents and teachers have experienced some success with a few techniques. The first technique is to use a great deal of repetition to imprint a response in the child. This technique may be useful when addressing concrete, regularly occurring situations, such as looking for traffic before crossing a street, or being sure the water faucet in the sink is turned off before leaving the bathroom.

Consistency in the way the information is delivered and repeated to the child is very important. The child may need to be physically guided through the correct behavioral response. If this is the case, guiding the child in exactly the same way each time is ideal. Verbal identification of the physical movements, or talking through the task as you physically guide the child helps to reinforce the behavior. Key words that can act as cues to remind the child of the correct response or behavior should be repeated often and with special emphasis, with the goal that the teacher can remind the child of the appropriate response or behavior with a short, one or two word cue (Burgess & Streissguth, 1992; Dorris, 1989; Morse, 1993; Soby; 1994; Villareal, et al., 1993).

This type of patterning takes an extraordinary amount of time, patience, and persistence on the part of the teacher. The teacher is attempting, through large amounts of repetition and practice, to "turn a voluntary act into an unconscious involuntary automatic act, into a habit" (Soby, 1994, p.68). The goal of this technique is not simply to bend the child's behavior to suit the teacher, but to instill automatic responses that may protect the child from the physical, emotional, or social harm that may result from acting on impulses.

Though the technique of repetition may result in some success, the successes are often so small and so few that parents and teachers despair of having any effect on the FAS child's responses at all (Dorris, 1989; Caldwell, 1993). This despair may arise from the sheer quantity of repetition that is required to imprint a behavior in a child, and it may also easily arise from the vagaries of the memory function in an alcohol-affected child.

The unpredictable memory of children affected by Fetal Alcohol Syndrome can be especially frustrating for the children and their teachers. After seemingly endless repetitions (and infinite patience on the part of the teacher), a child affected by FAS may seem to have mastered a skill or developed an habitual response, and will use it appropriately for several days, even weeks. However, to the parents' and teacher's dismay, the child may suddenly exhibit no apparent knowledge of the skill. To further confuse the issue, the child may spontaneously recall and appropriately use the skill a few days later (Burgess & Streissguth, 1992; Dorris, 1989; Morse, 1993).

An FAS child's memory is so unreliable, that it surprises parents

and teachers when a child seems to fully comprehend a suggestion or concept and act on it consistently. The surprise often turns to dismay when they realize that the behavior or thought that the child has somehow managed to remember is often a random suggestion that may have no real value and may even be detrimental. Michael Dorris' wife, Louise, writes in her preface to Dorris' book, The Broken Cord, about an angry exchange she had with their son who is affected by Fetal Alcohol Syndrome. In frustration, she screamed at him, "Don't call me Mom!" To her great dismay, of all the behaviors she and her husband tried to teach their son, this one command was the one he remembered and acted on.

Again, this behavior is often interpreted as willful misbehavior. However, in reality it is the result of the same organic brain damage that causes the FAS child to have difficulty in predicting consequences or relating cause and effect. Apparent memory deficits are actually the inability of the child to retrieve information. The brain damage that has occurred due to prenatal alcohol exposure has created conditions that make information retrieval unpredictable and sporadic. The child affected by FAS has no control over the ability to retrieve memories, including the memory of a skill that, after great effort, was thought to be well established in the child's repertoire (Morse, 1993; Soby, 1994).

The difficulties that children with Fetal Alcohol Syndrome experience with information retrieval and their inability to predict consequences are closely related and linked to this organic brain damage. Children affected by Fetal Alcohol Syndrome cannot remember the consequences that occurred as the result of past actions, and, therefore, do not learn from their mistakes. This inability to learn from

experience facilitates their impulsiveness (Burgess & Streissguth, 1991; Dorris, 1989; Morse, 1993).

Another symptom of Fetal Alcohol Syndrome is the presence of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD). The behaviors exhibited because of these disorders are closely linked to the problems of impulsiveness and unpredictable memory function. ADD and ADHD are both exhibited through impulsive behaviors, as well as the inability to concentrate. Teachers often find that children affected by Fetal Alcohol Syndrome cannot sit in a desk or in a group for any length of time, and cannot concentrate on one item, person, or activity long enough to absorb information that is being given.

ADD and ADHD are found in many children that are not diagnosed as being affected by Fetal Alcohol Syndrome or Fetal Alcohol Effects. Children with ADD/ADHD who are otherwise healthy and normal will often respond to behavior management programs that include consistent consequences for inappropriate behavior and frequent rewards for appropriate behavior. Parents and teachers of FAS children have found that behavior modification usually doesn't work for their children (Kleinfeld & Wescott, 1993), but they report that frequent rewards for appropriate behaviors and even approximations of appropriate behaviors are sometimes successful (Caldwell, 1993; Kvigne, et al., 1993; Los Angeles School District, 1990; Odom-Winn & Dunagan, 1991; Smith, 1993).

This category of behaviors is often the most heart-wrenching and frustrating for teachers and parents to deal with. Their impulsiveness, their inability to predict the consequences of their actions, their short

attention spans, and ADD/ADHD all are results of the brain damage sustained by FAS children in-utero. These characteristics result in behaviors that often put the children in physical, emotional, or social danger. Because they are the result of organic brain damage, there is little that the adults who care for these children can do to remediate the behaviors. The realization that there is very little parents and teachers can do to change these behaviors often leads to a sense of futility.

However, some parents and teachers have found that the use of medication to alleviate the results of these characteristics is successful in some alcohol-affected children. The use of medications such as Ritalin have been found to help these FAS children concentrate and focus for longer periods of time (Dorris, 1989; Kleinfeld & Wescott, 1993; Smith, 1993; Soby, 1994).

Strategies for Addressing Non-Adaptive Social Behaviors in Children Affected by Fetal Alcohol Syndrome

Very young children affected by Fetal Alcohol Syndrome are usually very affectionate, talkative, and fearless around strangers. They enjoy the company of other children their own age and play in an age appropriate manner. However, the characteristics that have been discussed in this paper often lead to social problems for these children, beginning about the time they begin school and continuing through their adult lives (Burgess & Streissguth, 1992; Caldwell, 1993; Dorris, 1989; Stevens & Price, 1992).

Young FAS children have a great need for making physical contact with others. They often greet others, friends and strangers alike, with bear hugs. They like to hold hands, sit on laps, and snuggle up to adults and peers (Powell, 1992). This behavior is seen as normal in children who are not affected by Fetal Alcohol Syndrome, also. In very young children, this is considered age appropriate behavior.

As normal children mature, physical demonstrations of affection usually become more infrequent and are often reserved only for close family members and friends. For FAS children, the pattern of intense, frequent physical contact may continue. This often leads to misunderstanding and irritation on behalf of their peers, who may be the recipients of their affectionate gestures. It also leads to discomfort among relative strangers who may receive hugs and other gestures of emotional warmth, sometimes without the benefit of having been introduced to the child. This type of behavior can put the child at risk for being ostracized by peers for being "weird," and at risk for being abused by pedophiles and other adults who will use the child's need for physical contact and physical affection to manipulate the child's behavior for their own purposes (Dorris, 1989; Morse, 1993).

On the other hand, FAS children may react to touch that is initiated by others with anger and/or aggression. A gesture of friendship, such as an arm thrown over the FAS child's shoulder, or accidental physical contact by a peer or adult may cause the child affected by FAS to jerk away or may trigger an aggressive response (Caldwell, 1993).

Children affected by Fetal Alcohol Syndrome also have difficulty reading the social cues that other children learn through their interaction

with peers, family, older children, and adults. They may not understand the concept of personal space, standing too close to others when they are speaking or touching others with too much intimacy. They may constantly interrupt others or turn their backs on people who are talking to them. They may laugh, cry, talk, or yell at inappropriate times. Their concrete thinking may cause them to misinterpret the language used by their peers, causing misunderstandings, awkward situations, and embarrassment (Dorris, 1989; Lutke, 1993; Morse, 1993).

Children with FAS will often be caught telling lies. They don't understand the concept of honesty, and lie in an effort to satisfy others by telling them what they want to hear. Stealing from peers and other kinds of petty thievery are also common among alcohol-affected children (Burgess & Streissguth, 1991; Caldwell, 1993; Dorris, 1989).

Unlike normal children, children affect by Fetal Alcohol Syndrome do not learn and do not understand that rules of etiquette, the values of the society, and the laws of the land apply to them (Burgess & Streissguth, 1992). They cannot comprehend the need for rules because they are unaware that their actions have predictable consequences, and most rules and laws are based on preventing the predictable, undesirable consequences of particular behaviors (Burgess & Streissguth, 1992; Dorris, 1989; Hayne, 1993).

Guiding an FAS child through the process of learning appropriate social behavior is often a life-long task. Guided repetition of appropriate responses and behaviors can be successful in some instances. Children affected by Fetal Alcohol Syndrome can be taught to regularly brush their teeth, take showers, change their clothes, but they must be reminded to

carry out these tasks, often on a daily basis (Dorris, 1989).

Teachers have found that keeping the number of classroom rules to a minimum, wording them in very simple, concrete language, and reviewing them daily (sometimes several times a day) have been helpful in reminding alcohol-affected children of appropriate social behavior. The use of clearly defined, consistent, concrete, and immediate consequences for inappropriate behavior has also been helpful in many cases (Best, 1993; Kvigne, et al., 1993; LaDue, 1992; Los Angeles School District, 1990).

Parents and teachers of children with Fetal Alcohol Syndrome have also found that having a consistent adult presence in the children's lives is vital. The trust a child builds in the consistent responses of a particular teacher help him concentrate on the information the teacher is trying to convey. This bond between the child and his teacher can have an enormous impact on the success of the strategies a teacher uses to teach the alcohol-affected child (Dorris, 1989; Powell, 1992). The teacher acts as a powerful role model in the lives of all students in the classroom, but for the FAS child, the need for constant, appropriate modeling is greatly enhanced (Barth, 1991; Best, 1993; Griffith, 1992; Kleinfeld & Wescott, 1993; Morse, 1993; Powell, 1992; Smith, 1993; Villareal, et al., 1992).

Role-playing has been found to be successful in some instances when teaching children with Fetal Alcohol Syndrome. However, the role-playing scenarios must be for concrete situations, requiring responses that can become rote through repetition. The frustrating aspect of this technique is that FAS children cannot generalize responses to different

situations. Although the child may be able to respond accurately in a role-play situation in which he has taken part several times, he may not be able to transfer that response to a real life situation, even if the situation is nearly identical to the role-play.

This is another aspect of the child's thinking that does not have "movable parts." A teacher or parent cannot possibly think of every situation that a child may encounter. Therefore, the role-play scenarios that a teacher does choose to concentrate on should reflect real life situations as closely as possible, and must be repeated very often in order to have a lasting impact on the FAS child (Burgess & Streissguth, 1992; Caldwell, 1993; Dorris, 1989; Hayne, 1993; Smith, 1993).

Teaching appropriate social skills is most successful when the skills are taught in context, using simple, concrete language. The frequent use of rewards for using skills correctly has also been somewhat successful, when used in conjunction with other techniques. All attempts at teaching social skills to children affected by Fetal Alcohol Syndrome must include a great deal of repetition and reteaching (Caldwell, 1993; Los Angeles School District, 1990; Lutke, 1993; Smith, 1993).

The reality is that many children with FAS do not become totally self-sufficient in remembering and using social skills. Some children are able to use appropriate behavior consistently in familiar situations. Many need frequent prompting, through verbal cues, pictures, schedules, and visual/concrete reminders to remember and use socially acceptable behavior (Dorris, 1989; Lutke, 1993; Kleinfeld & Wescott, 1993).

Conclusions and Recommendations

The fundamental, inescapable reality that educators must face is that Fetal Alcohol Syndrome is a permanent condition that includes mental retardation and organic brain damage that affects the memory, the ability to predict consequences, and the ability to comprehend abstract concepts. The physical, emotional, social, and educational needs of FAS children can be viewed as an enormous magnification of the needs of normal children. These characteristics make teaching children with FAS a tremendous challenge.

We must remember, however, that "(w)hen we talk about (alcohol-affected) children we are not dealing with a biologic underclass, we are not dealing with children of the damned or children of the doomed. *We are dealing with children*" (author's emphasis) (Powell, 1992, p. 39). Their individual strengths and vulnerabilities are as different as those of other children (Barth, 1991). When determining the best educational processes for teaching children with Fetal Alcohol Syndrome, we must be careful to remember their individual needs and unique abilities.

The techniques that have been identified as even marginally successful in teaching children with Fetal Alcohol Syndrome require a great deal of time, attention, patience, perseverance, consistency, and repetition. These strategies require a huge investment of the teacher's physical and emotional energy, and success is often fleeting. The strategies discussed in this paper are among the relatively few strategies that have been identified as successful in any way with FAS children. These techniques have been discovered and developed through trial and error by dedicated parents and teachers who believe that all

children, including children with FAS, should be given the chance to learn all they can.

These strategies have been proven useful in the homes and classrooms of alcohol-affected children all over the United States, and they are the only suggested educational techniques offered to educators at this time. In order to guarantee that we are educating children affected by FAS effectively, we need scientific research into the best educational practices for teaching them. "There is a great need for research to further our understanding of these individuals throughout their lives and for strategies to meet their needs both in schools and in communities" (Burgess & Streissguth, 1991, p. 28).

Educators and family members must continue to work toward finding the best ways to educate FAS children. However, as in all aspects of raising a child, the schools and the families cannot succeed if they are working alone. They need the support and assistance of the entire community, beginning with the medical community.

In order to be sure that children with Fetal Alcohol Syndrome receive appropriate educational opportunities, they must first be identified. Even though the incidence of FAS in the general population of the United States is thought to be nearly equal to the incidence of Down's Syndrome, many FAS children are not diagnosed by their family doctors. In a study conducted with pediatricians in Massachusetts, it was found that the doctors' knowledge about the identifying signs of Fetal Alcohol Syndrome was accurate. Yet many of the doctors had never diagnosed a single case (Morse, 1993).

In discussing the great difference between the potential number of

FAS diagnoses and the actual number of diagnoses, doctors talked of their reluctance to question a pregnant client or new mother about her drinking habits during pregnancy. Many also were aware of the prognosis for children with Fetal Alcohol Syndrome, and the lack of treatment options available to correct the problems that are unique to FAS. "(M)any physicians report that without a specific treatment protocol, FAS need not be specially diagnosed and should be treated like any other central nervous system disorder. They are reluctant to apply a term that is seen as pejorative in some settings (such as schools), when few perceived benefits result" (Morse, 1993, p. 30).

While doctors apparently have the knowledge needed to make accurate diagnoses of Fetal Alcohol Syndrome, they are not making those diagnoses because of their perceptions of the FAS child's future options. Doctors, as well as educators, need to be made aware that "although FAS and FAE are conditions with lifelong consequences, the future is not hopeless" (Burgess & Streissguth, 1991, p. 28).

If early diagnoses can be made, "we can maximize the potential of our students because we can begin early, plan and implement appropriate educational programs, manage challenging behaviors effectively, improve support services for adolescents and adults, and provide better education and support for families" (Burgess & Streissguth, 1991, p. 28). It is clear that early diagnosis will bring far greater benefits to an FAS child than ignoring the problem and hoping the child will receive some special help.

School systems must also begin to take some responsibility in correctly identifying children with Fetal Alcohol Syndrome. Dr. Donna

Burgess (1992), a Research Assistant Professor in Special Education at the University of Washington, suggests that schools include questions about prenatal alcohol exposure in their health screening tools. While schools may be hesitant to tackle this morally sensitive area, the information gained may make educational opportunities immediately available to the child entering school. It will also allow the teacher to become prepared for the challenges of teaching an alcohol-affected child. Both will have positive effects on the educational experience of the child.

It may be that educational techniques that create lasting, positive alterations in an FAS child's abilities will never be found. Conversely, a break-through in successfully educating children with Fetal Alcohol Syndrome may be discovered soon after scientific research begins. "There is a long road ahead in meeting the educational needs of students with FAS. . . " (Burgess and Streissguth, 1992, p.2). However, with greater accuracy in the diagnosis of FAS by the medical community, wider dissemination of information about FAS to the public, and more research into appropriate and successful teaching techniques, we can make progress in our travel down that road.

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