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Fetal alcohol syndrome students in the classroom : an overview of strategies and implications for educators

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Fetal alcohol syndrome students in the classroom : an overview of strategies and implications for educators

Abstract

Fetal Alcohol Syndrome (FAS) is a very serious disease that is affecting more and more students in schools across America each year. Each of these students with FAS have different levels of severity of the disease and individual needs, but there are general and universal interventions and strategies that can be used by educators when working in the schools with these students. The following is an overview of some of these interventions and strategies that can be used with FAS students. Also included are implications for school psychologists and other educators for development and education in this area to better help their FAS students.

Fetal Alcohol Syndrome Students in the Classroom:
An Overview of Strategies and Implications for Educators

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In Partial Fulfillment
of the Requirements of the Degree
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ABSTRACT

Fetal Alcohol Syndrome (FAS) is a very serious disease that is affecting more and more students in schools across America each year. Each of these students with FAS have different levels of severity of the disease and individual needs, but there are general and universal interventions and strategies that can be used by educators when working in the schools with these students. The following is an overview of some of these interventions and strategies that can be used with FAS students. Also included are implications for school psychologists and other educators for development and education in this area to better help their FAS students.

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CHAPTER 1

INTRODUCTION

Background

Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE) are very serious diseases that affect a child's physical characteristics, development, and future relationships, with FAE being the less severe of the two. The term Fetal Alcohol Syndrome was first used in 1973 to describe a pattern of birth defects found in children of mothers who consumed alcohol during pregnancy. Today, FAS remains the leading known cause of mental retardation. Students with mental retardation make up approximately 3% of the school age population in the United States. It is estimated that 7,000 children are born each year with FAS (one in 500-600 children), while FAE is three to five times as likely to occur, a scary statistic that increases every year (Finlay & Sorenson, 1995). Children of alcoholic mothers have a 44% chance of having FAS and a 66% chance of showing partial effects (Williams et al, 1994). FAS can be defined by four main criteria: maternal drinking during pregnancy, a characteristic pattern of facial abnormalities, growth retardation, and brain damage. Prenatal exposure to alcohol can lead to mental retardation, learning disabilities, attention deficit disorder, learning/speech delays, and problems with reasoning.

Children with FAS present a special challenge for educators because of the variety of disorders and dysfunctional behavior traits that these diseases possess. There have been very few large studies conducted that have compared the progress of FAS children with the progress of children with other developmental problems or no problems

at all. Most of the research studies are case studies that describe a child's intelligence, motor skills, and attention. Although the research is sparse, it is shown that specific interventions may help children with FAS better overcome many of their cognitive and behavioral problems (Weiner & Morse, 1994). There are also many special strategies that can help these children develop their skills to their highest potential. Of the research that is available, it has been shown that children with FAS who, in general, were not exposed to any kind of intervention had symptoms that remained constant over time (Weiner & Morse, 1994). Learning ability and other mental functions have been shown to improve when long-term therapy had been implemented (Weiner & Morse, 1994). Until more specific research studies in this area are conducted, literature in this area refers to students with similar behaviors and clinical experience to recommend the most hopeful educational practices (Burgess & Streissguth, 1990).

Significance of the Problem and Organization

To ensure that children with FAS receive the best and most appropriate education possible, it is essential that educators are aware of interventions and strategies that are available to implement in the classroom when working with these children. The purpose of this paper is to review the literature on these specific interventions and strategies that are used in the schools and classrooms across the country to help children with FAS overcome the effects of their specific disabilities. This paper will also cover interventions and strategies for specific areas of disabilities, such as learning, attention, behavior, and social skills. Because Fetal Alcohol Syndrome affects many different areas of development, it is important to look at interventions and strategies in all of these areas.

There are numerous articles and books on Fetal Alcohol Syndrome topics such as prevention, prevention training, and the brain, but very few on working with these children in a school situation.

The paper is organized answering four questions: 1) What is the definition, prevalence, and diagnostic signs of FAS?; 2) What are general classroom interventions and strategies?; 3) What are specific interventions and strategies for different areas of development?; and 4) What are the implications for educators and school psychologists? Of the research that is available on this important subject, most interventions and strategies are geared toward general and special education teachers, but it is also very important to look at strategies that other educators, such as school psychologists, can use when diagnosing and working with FAS children to help them get the most out of their education.

Definitions of Important Terms

Fetal Alcohol Syndrome: A lifelong, yet completely preventable, set of physical, mental, and neurobehavioral birth defects associated with alcohol consumption during pregnancy.

Fetal Alcohol Effects: A child with a history of prenatal alcohol exposure but not all the physical or behavioral symptoms of FAS may be categorized as having fetal alcohol effects (FAE). FAE is normally limited to intellectual and behavioral problems without the facial and physical abnormalities (Batshaw & Perret, 1993).

Learning Disability: A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken, or written, that may manifest

itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematics. (Iowa and Federal Definition, Public Law 94-142)

Mental Retardation: Significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects an individual's educational performance.

CHAPTER 2

REVIEW OF LITERATURE

Today's schools are made up of a wide variety of children with many different characteristics, disabilities, and levels of functioning. With the prevalence of Fetal Alcohol Syndrome on the rise, it is very important for educators to understand how to properly work with and teach students with FAS to ensure that they are receiving the best education possible for a bright future. The purpose of this paper is to review the literature that is available on interventions and strategies for working with FAS students and to better inform educators on what FAS is and how to work with those students. To better inform the reader of the literature, this paper will include the following:

1. Characteristics of Fetal Alcohol Syndrome
2. Diagnosis of Fetal Alcohol Syndrome
3. Implications for Educators
4. General Classroom Interventions
5. Specific Interventions (e.g. behavioral, social skills, attention, etc.)
6. Conclusions/Implications

Recently, researchers have discouraged the use of the term "Fetal Alcohol Effects" (FAE) because it may create confusion and clinical problems (Finnestad, 1997). Because this term was present in most of the literature reviewed, FAE was defined previously in this paper, but the term Fetal Alcohol Syndrome (FAS) will be used for clarification purposes as to not confuse the reader when defining characteristics and the diagnosis process. However, that is not to say that many of these interventions and

strategies cannot be used for students who are not diagnosed with FAS. These interventions can also be used for students who have FAE or FAS symptoms.

Characteristics of Fetal Alcohol Syndrome

Specific physical characteristics are some of the first indicators that a child has FAS. Children with FAS have very distinct facial features such as a flat midface, small head circumference (microcephaly), short upturned nose, short palpebral fissures (eye slits), a thin upper lip, and a small chin. They may also have widely spaced eyes, crossed eyes, large or malformed ears, and a short neck. FAS children are usually born with a low birth weight and premature. Some secondary characteristics include crooked fingers, shortened little fingers, limited movement in certain joints, and hypoplastic finger- and toenails. Heart defects occur in about 30% of individuals with FAS (Streissguth, 1997, p. 23-25).

Dr. Barbara Morse of Boston University (1993) states that the physical characteristics are only a small part in the diagnosis of FAS. Long-term cognitive delays, learning problems and behavioral problems are also prominent. Since the central nervous system is damaged, children will often exhibit hyperactivity and attention deficiencies. While a child's skills may be good in some areas, they may also be very poor in others. Some children have problems during infancy but reach normal developmental levels by school age, depending on the severity of FAS. Others have periods of learning followed by periods of delay, and some learn to adapt to their abilities. But for many others there is little improvement. Uneven patterns of learning may frustrate parents and teachers who view the child as willful or lazy (Morse, 1993, p. 16).

Like any disability, children with Fetal Alcohol Syndrome demonstrate a wide range of disabilities and educational and support needs. Educators must look at each child as being unique and must take into account their individual strengths and weaknesses when designing an individual program plan or individual education plan (IEP). Individuals with FAS display a variety of characteristics that may change as that child ages. Most have learning problems or delays, and exhibit a variety of problems with language and memory. One study reviewed by Preboth (2001), found that children aged five to six with FAS learned fewer words compared with a group of children of comparable mental age who did not have FAS. They also perform poorly on tasks that involve learning spatial relationships among objects and shifting from one task to another. Children with FAS have problems with abstract thinking, such as planning and organizing. They are sometimes easily distracted and have a difficult time abandoning poor problem-solving strategies. The average IQ of a child with FAS is 68. Older adolescents with FAS were found to be about as sophisticated intellectually as the average seven and a half-year-old (Streissguth, Barr, & Sampson, 1990).

Learning disabilities and attention disorders have been considered a hallmark of prenatal alcohol exposure. Children with FAS are very often misdiagnosed as having Attention Deficit Hyperactivity Disorder. Language and memory problems are also very prevalent. They have a hard time learning from experience because they cannot remember the past consequences of their actions. They often times need simple instructions repeated several times and are indifferent to both praise and blame. FAS children are very easily distracted and have difficulty shifting from one task to another.

School achievement usually reaches its maximum point during middle school years. Reading and spelling are often superior to arithmetic skills. Girls seem significantly higher than boys do on the scales of conduct problems, hyperactivity, aggression, and learning disabilities (Streissguth, 1997, p. 124).

Children with FAS often act very inappropriately in social situations and are sometimes unable to understand the consequences of their actions. They may be too friendly and fearless that they may not be able to distinguish strangers from friends. They show poor judgment, and confuse appropriate private and public behaviors. Many lack control over their impulses. Difficulty with sensory integration may cause them to act strongly or inappropriately to sounds, light, and touch (Morse, 1993, p. 19).

As the child moves into adolescence, their facial features become less distinct, but still continue with the same, and sometimes even more extreme, behavioral and learning problems. Lying, stealing, and vandalism become more frequent, because they cannot understand or remember consequences. Adolescents with FAS are often very egocentric and have difficulty comprehending and responding appropriately to others' feelings, needs, and desires. They are unable, sometimes unwilling, to accept any kind of responsibility. They have very low self-esteem and motivation, which is why many drop out of school or are not involved in many extra curricular activities. Because of this, many become depressed and attempt suicide. Some start inappropriate sexual behavior and become pregnant or father a child. During adolescence, they may also reach an "academic ceiling", which means they have lower reading, spelling, and especially arithmetic scores than expected for their age (Clemensen, 1992, p. 48).

Being an adult with FAS come with a wide range of difficulties. They seem to have increased expectations placed on them by others and if they do not meet those expectations, people tend to have increased dissatisfaction toward the person. They tend to have poor comprehension of social skills, which may get in the way of them finding and keeping a job. It is also harder for a person with FAS to be trained for a job since they are not good learners, have a short attention span, and have a difficult time remembering what they have learned. Similar to as in their adolescent years, they tend to have low self-esteem and motivation, which again causes them to become depressed and often suicidal. If they start to have difficulties in their lives, which they regularly do, they often do not know how to deal with it and become socially withdrawn and isolated. They are embarrassed of their disorder and often do not want to ask for help because they do not want others to find out about their FAS (Clemensen, 1993).

For children and adults with FAS, finding and keeping friends is probably one of the hardest things they will go through in their lives. Many do not understand what is required to be a friend. They are usually affectionate and interested in others, but lack the social skills required in making lasting friendships. They are poor at reading the social cues (e.g. facial expressions, gestures, and tone of voice), which tells them how to react in a certain situation. Researchers have recently given this problem a name, dyssemia, and see it as a type of learning disability (Streissguth, 1997). Often children play better with other children who are a year or two younger than them. They tend to act younger than their physical age, so children their own age tend to lose patience and take advantage of them. The loneliness and isolation they experience with not friends can lower their

self-esteem dramatically. Early social skills interventions can give the child the skills that he or she needs to effectively relate to peers their own age and help them obtain the social skills that they will continue to use throughout their lives (Clemenens, 1993).

Diagnosis of Fetal Alcohol Syndrome

Fetal Alcohol Syndrome is a medical diagnosis and is usually made at birth. A behavioral or general pediatrician, a geneticist, or other specialists must test and provide a clinical diagnosis for an individual to be identified with FAS. When diagnosing FAS, there are three main criteria that are observed: Low Birth Weight (less than 5 lbs., 8 oz.); Central Nervous System impairment; and Anomalies in facial structure. Once diagnosed with FAS, the child is usually put into one of three categories:

1. Category 1 FAS – anomalies in facial features, retarded brain growth, and maternal drinking during pregnancy
2. Category 2 FAS – maternal alcohol exposure that is not confirmed, but with all of the clear features for an FAS diagnosis
3. Category 3 FAS – the child has some of the FAS characteristics or components, with a confirmed maternal alcohol exposure during pregnancy.

Because growth retardation, congenital anomalies, and CNS damage can occur throughout a lifetime, the diagnosis of FAS can be made at anytime during a child's life (Conry, 1996).

Diagnosing and identifying children who suffer from FAS is very difficult. Many children go undiagnosed or their characteristics go undetected. There are many reasons why children go undiagnosed and undetected as having FAS. FAS features tend to be

very subtle at birth, which makes confirming the diagnosis difficult (Lotus & Block, 1996). There are physical and behavioral characteristics that must be observed by doctors rather than just a single feature. There are few doctors and physicians that are specifically trained to identify FAS. The FAS diagnosis can also be supported with a history of the mother's history of alcohol consumption, but it is difficult for doctors to obtain the history by the mother because then the mother would have to admit that she drank during pregnancy. Many mothers do not want to admit that they drank while being pregnant, whether it was one or one hundred drinks. It is difficult to get honest information from the mother about the history of their pregnancy (Finlay & Sorensen, 1995).

Once a child has been diagnosed with FAS, it is hard for that child to get the educational services they need in the school system. There is not a unifying label that addresses all of the aspects of FAS. Because children with FAS often have learning disabilities and attention deficit hyperactivity disorder (ADHD), all aspects of FAS are not completely addressed in special education classes. Being labeled as having learning disabilities or ADHD will not address all of the specific educational needs of the child. Teachers need to be aware of the observable and unobservable indicators of FAS so they can better help the undiagnosed child as well as the one who has been diagnosed with FAS (Finlay & Sorensen, 1995).

Implications for Educators

As knowledge of the prevalence and the impacts of FAS are expanded, it is increasingly recognized as having an impact on societal and educational systems.

Although many children with FAS are present in the school system, there is little assistance provided for educators to help them when working with these children. It is necessary that teachers, school psychologists, and other professionals recognize and address the varying requirements of children suffering from prenatal exposure to alcohol. Many educators are unaware of the characteristics of Fetal Alcohol Syndrome, so they are unable to recognize it and intervene when it is the most important. School-based interventions are essential, yet well-documented, empirically based interventions with FAS children are lacking (Phelps, 1995). There are interventions and suggestions for teachers and other professionals when working with FAS children, but very few that have been actually researched. Having educators that are very familiar with FAS who are working with these children, and implementing effective interventions at an early age can significantly decrease the effects of FAS over time.

In general, there has been a three-tiered approach that has been common with professionals when working with FAS children. First, prevention education is necessary at the middle and high school levels to increase knowledge, change attitudes about alcohol use, and effect behavior change. Second, early diagnosis and comprehensive preschool interventions for FAS children and their families are necessary if normalcy is the goal. This is one of the most important services that a school psychologist can provide with this population. By correctly diagnosing and identifying children with FAS, school psychologists enhance the probability that effective services will be provided. Services are not guaranteed, but become a possibility. Third, stipulation of appropriate multilevel and multidisciplinary services for all children with FAS throughout their years

in school. Interventions should be based on their individual needs, not just the fact that they are diagnosed with FAS (Phelps, 1995). Even though specific interventions should be need-based and developed in individual education plans (IEP), there are common, universal suggestions and interventions that are recommended.

Throughout the rest of the paper, possible interventions and strategies will be identified for educators when working with students who have FAS or FAS symptoms. Interventions and strategies will be explored in areas such as environmental interventions, learning and attention interventions, memory and language development interventions, behavior interventions, and interventions for social skills. As stated earlier, there has not been much research done in this area. Many of the articles and research studies done in this area are from personal experiences and recommendations from professionals in the field of child psychology and psychiatry who have studied and research fetal alcohol syndrome extensively. Until more specific research studies are done on FAS interventions, it is necessary at times to refer to literature on effective interventions for students with similar behaviors and problems and to use clinical experience and observations to recommend the most promising educational practices and strategies (Burgess & Streissguth, 1990).

General Environmental Interventions

Even though the research in this area is limited, there are many interventions and strategies that are recommended for working with student who have FAS. Intervention approaches for FAS children are consistent and similar to many other approaches used with special needs children (Short & Hess, 1995). When implementing these strategies

and interventions, one will not be sufficient. Combining these strategies is required for them to be effective. Modifications and supports are needed to connect the students previous knowledge and experiences and the intended goal of instruction. Teachers and educators need to be aware the progress will be uneven, with good days and weeks followed by bad days and weeks. But if the focus is on their accomplishments and frustrations are directed toward the behavior not directly at the student, the student will very likely progress (Conry, 1996).

Schedules and Reminders

As with many other disorders and diseases, consistency is the key. Programs that vary little from day to day are the most effective for students with FAS. Caldwell (1993), a FAS researcher and mother of an FAS son, found that her son thrived in programs and classrooms that were consistent from day to day. These students need the security of knowing what to do and when to do it throughout the day. Most elementary grades will have their schedules posted in their room already, but many FAS students may need that schedule with them or at their desk for easy reference throughout the day. As FAS students move to middle and high school, they may need their daily schedule written out for them so it can be easily followed. An easy way to do this is to post their schedule in their books, in a small photo album on note cards that is easy to carry around, or index cards that can be posted at their desk or in their locker.

If change is going to occur or the routine is interrupted, the child must be prepared by walking through the whole routine before it happens and then again after it happens. Have schedules, calendars, and clocks easy to see and access by the students so they

know when they have to transition between activities and what will happen next. Just making sure that the student knows what is going on is very important. A teacher or educator can never repeat him or herself too much when working with FAS students. Establishing visual, auditory, and sensory cues also helps with routine. For example, a system that has been used is called the "echo" system. The educator will say a command, then the student will echo that command. This way the educator knows that the student heard and is able to ask questions if necessary (Osborne, 1994).

Transitions

Transitions from one activity to another throughout the day are very important and should not be overlooked with working with FAS students. If transitions from one activity to the next are not done in a routine fashion, FAS children can become very overwhelmed and react with temper tantrums or in other negative ways (Finlay & Sorenson, 1995). Transitions should be built into the daily routine and should be cued by a signal or sign. These signals or signs can include music, songs, chants, or simply showing the picture of the next activity. A signal or sign should be given about three to five minutes before the activity is to end as to warn the students of the end of the activity and to clearly introduce the next activity. At the end, another signal or sign should be given, such as clapping, to signal the start of the transition. For older students in middle and high school who have to transition every hour, it is helpful to include an easy-to-access schedule and map to their next class (Osborne, 1994).

Teacher Attention

One of the most effective strategies is one-on-one attention by the teacher or educator. This one-on-one attention has a positive effect on both behavior and academic performance. In a study by Finlay and Sorenson (1995), University of Virginia professors at the Curry School of Education, it was found through observations of FAS students in more structured, attention-giving environments, that after the teacher gave the student more attention, he moved from scribbling, coloring and crumpling his assignment to being engaged and completing his assignment. It was also found that individual attention, eye contact, and close physical contact are ideal strategies when working with FAS students. Teachers in this study also indicated that they incorporate checking in with the student as often as possible, individualizing teaching, and providing one-on-one attention to better help a FAS child in the classroom.

Stimulus Reduction

Children with FAS have various needs in the classroom such as stimulus reduction (down) time, clear visual and physical boundaries, and a physical outlet when sitting for long periods of time. Students can be easily over stimulated and overwhelmed in situations with many different stimuli at one time. How a classroom is arranged and other external structures can have a significant effect on an FAS student's learning process. Limiting distractions is necessary and can be done by decreasing the amount of visual and auditory stimulation in the room, and reducing the brightness of the lighting. This will help students stay focused on their assigned tasks. Establishing quiet zones in the classroom is also important. This way if the student is distracted, needs to relax, or

needs to go to a time-out, they have somewhere to go that will allow them to not be interrupted by other students. Having stuffed animals or an aquarium with fish will help the student calm down and gain control again. The educator should make sure that the student has his or her own personal space when at their desk. They should have their own personalized work area that is close to the teacher will motivate on-task behavior. These personalized work spaces should be clear of other distractions and materials that are not being used are put out of sight (Weiner & Morse, 1994).

Jan Osborne (1994), principal writer and researcher for the Special Programs Branch of the Ministry of Education in the British Columbia Department of Education, presents a concept called “cocooning” to help the child slow down and unwind for an over stimulating activity. This is an opportunity to balance and to be still and quiet, a so-called escape from very stimulating activities. One way of doing this is putting on headphones with no music playing to relax and think. Another way of “cocooning” is to have an area with many blankets and pillows for the child to go to relax. The children can use these blankets to cover themselves or make a tent where they can just sit quietly. These strategies allow the student an opportunity to retreat and relax by him/herself in order to gain balance after an activity.

Organization

Having an organized classroom is also very important for FAS children. Areas and items should be clearly marked and it is helpful to use both pictures and written descriptions to reduce multiple interpretations by the students (Osborne, 1994; Finlay & Sorensen, 1995). The room should always be neatly organized with games, toys, and

academic activities put back in their places at the end of every day to reduce confusion the next day. Another effective technique in the organization of the classroom is to identify and mark borders for individual students, especially when they are working in pods or groups. This bordering can create a space where that student is free to move around and work in without the distraction of others. Having many digital clocks rather than face clocks around the room can also be easier for the student to read and can be an effective tool when using timed activities or timed on-task behaviors.

Children with FAS may also need physical outlets and activities that they can do to reduce activeness so the child more ready to focus and stay on-task. Having clay or play-dough, stress balls, or anything else that is soft and can be held in the hand are convenient items to keep at the student's desk or work area that will allow the student an outlet with his or her hands and give the student the ability to sit and work for longer periods of time (Osborne, 1994). This outlet is not distracting for other students and can either be a controlled activity by the teacher or an activity that can be done any time the student feels the need.

Utilizing the students' strengths in the classroom is critical for their intellectual and behavioral development. An area of strength for FAS children is Bodily-Kinesthetic Intelligence, in other words, they can process knowledge effectively through physical movement, dramatically and creatively. The use of role-play with FAS students can help the child learn appropriate social skills and behavior (Osborne, 1994). A teacher and educator can also use physical movement when teaching other subjects, such as math and health. For example, students can measure heart rates after an activity, then measure it

again after a longer activity and figure the difference. There are many physical activities that can be done to educate students, it is just a matter of being creative.

Students with FAS today not only need to be taught academic and behavioral skills in the classroom, but there should be a strong focus on teaching vocational and functional skills. These skills are essential for the student to be successful in the community after he or she finishes their schooling (Wentz & Larson, 1993). These skills should focus on making the student as independent as possible, both now and in the future. Educational objectives should go further than just the classroom and immediate setting, and to help them be successful in the homes and communities (Burgess & Streissguth, 1990).

It is also essential for educators to remember that every child with FAS is different and each suffers from different severities of the disease. It is essential to allow for individual differences when working with these children. Setting individual goals with students lets them know that the educator is there to help. It is also suggested that parents structure the child's home environment to make the school environment. This will help with transitions and memory.

Learning Disability and Attention Interventions

Dr. Barbara Morse (1994), a research professor and program director of the Fetal Education Program at Boston University, states:

Many people have a learning disability in one or two areas; children with FAS seem to have processing deficits in all areas. They have difficulty recording,

interpreting, storing, retrieving, and using information. Many children will function well one day and poorly the next.

Children with FAS appear to learn and use information differently than the average child does, so it is very important to teach these children *how* to learn (Weiner & Morse, 1994).

Dr. Ann Streissguth is a prominent researcher in the field and has been studying FAS for over 30 years. She is a professor in the Department of Psychiatry and Behavioral

Sciences at the University of Washington School of Medicine, and director of the Fetal Alcohol and Drug Unit. Along with colleague Dr. Donna Burgess (1997), they concluded

that children with FAS and FAE children have a wide range of IQ's, achievement levels, and learning needs. In studies that have looked specifically at the cognitive processes of

FAS students, deficits were found in the areas of learning, memory,

organization/problem-solving, and psychosocial development (Streissguth et al., 1989).

They must be carefully taught even the most basic skills, such as distinguishing friends

from strangers. These difficulties with learning may be associated with organizational

and processing deficits in the areas of information input, output, and memory. Their

learning often occurs in spurts, with apparently easy periods followed by difficult ones.

These children need context-specific environments and creative, flexible strategies of teaching to maintain attention. FAS children have much difficulty applying information from one situation to another; they often miss cues such as gestures, facial expressions, and tone of voice. Visual information, such as pictures and charts are often used to back up spoken information to help them process the information more effectively. Repetitive, sequential teaching is also effective. Also, instead of open-ended

activities, it is better and more effective to have ones with clearly defined goals and objectives to help reduce confusion and frustration (Finlay & Sorenson, 1995).

Most students with FAS have problems maintaining the focus of their attention, which makes it very difficult for them to learn. Some of the most difficult symptoms of FAS are distractibility and hyperactivity. Because attention problems in children with FAS are similar to those who are diagnosed with ADHD, many of these strategies are used with both FAS and ADHD students (Schench, 1994). Many of their impulsivity problems are symptoms of their learning problems (Finlay & Sorenson, 1995). FAS students can become frustrated easily if they do not understand a concept. Because of this and because the regular classroom can be sometimes overstimulating, visual and auditory distractions must be kept at a minimum. Helping and encouraging the student to use self-talk to stay focused can be very effective. If they need stimulation, activities such as reading while rocking in a chair would be an idea. Making activities brief for that student also helps, but if they are still too distracted, moving them to a quieter area or a different room may be necessary, not as a punishment, but just to help them concentrate. Having the student understand this is very important. Things that are done differently with them are only going to help, not punish (Conry, 1996).

Allowing extra practice time for reading and writing will also help with comprehension. Students will often feel overwhelmed with the amount of information, if this happens, slow down and be sure not to rush the student. It is essential to use techniques that enhance previous knowledge and that are designed to empower the student, not intimidate or frustrate them. Just taking time to talk to the student will help

the educator better know how that child thinks. This will help when deciding on what to do to help the student (Burgess & Streissguth, 1997).

Teaching generalization skills is also essential. FAS children often make weak connections between concepts and relationships and need to learn generalization between these concepts and those outside of the classroom. There are specific activities that can be used to help with generalization. For example, have the child brainstorm about what they know about a dog, a beach, etc., and then have them place their ideas into categories with a diagram to show the connections between his thoughts. Students must have opportunities to practice their generalization skills in situations in which they will use them, such as the grocery store with money (Burgess & Streissguth, 1990). With games and strategies like this, FAS students can learn to make correct decisions in different situations (Finlay & Sorenson, 1995).

Memory and Language Development Interventions

Memory and language development deficiencies are common in students with FAS. Learning difficulties and language development may be associated with memory and input and output of information (Weiner & Morse, 1994). FAS affected students have difficulty with short-term memory, which means that these students will often learn concepts one day, and they will be gone the next (Root, 1997). It can be very upsetting for students when they realize that they cannot remember something that is easy for others. Their slower rate of language development is very often due to memory. It can also be due to impaired oral-motor ability and difficulties with pronunciation (Finnestad, 1997). Because of this, teaching to their long-term memory is recommended. This

means re-teaching and repeating concepts frequently (Root, 1997). Consistency, as mentioned earlier, is also essential when working and teaching to the long-term memory. The overall goal when working with the student's memory is to make sure that they understand the concept, not just repeat it.

It is very important to use language and words that the student understands and that are in a familiar context. They will be more likely to comprehend and remember familiar words and phrases. Providing opportunities for the student to practice speaking, which may be above and beyond what is required in the regular education class, is also important when developing language skills. This practice also helps with memory skills when the student is speaking about previous or upcoming events. Using materials with pictures or other illustrations is very helpful in the process of comprehending and transferring information to different situations. It is important for educators to give instructions one step at a time, written if necessary, and not to continue until they are certain that the student understood. Repetition is also a key intervention to remember. The more the child hears something, the more likely that information will be stored in long-term memory (Burgess & Streissguth, 1997).

Behavior Interventions

Children with FAS often have behavior problems associated with the disease. Most of the problem behaviors that come from these students stems from stress, relieving tension, coping with obstacles, or their reaction to change. Determining where the behavior is stemming from is the first step in finding an effective intervention (Burgess & Streissguth, 1997). Behavior management strategies for FAS children are significant in

dealing with problem behavior from these students, but are not much different from those strategies used with any group of special needs children (Short & Hess, 1995). Data collection charts are helpful and assist with record keeping of the frequency of the behavior, its nature, the time of the occurrences, and the consequences. For instance, altering the controlling cues for the behavior, the consequences for the behavior, and the time with which the consequences are delivered can result in positive changes. As with most normal children, FAS students thrive on positive reinforcers and usually require significant amounts of it for the behavior to change (Short & Hess, 1995).

Establishing clear rules and guidelines also helps with smooth classroom operations. Guided observation of these rules is important. Guided observation involves directing a student to watch another student who is following a rule successfully. This technique helps students attend and focus on the critical dimensions of the rules (Burgess & Streissguth, 1997). As with rules, consequences should be clearly defined, consistent, predictable, and understood. Using verbal, high-energy consequences to reinforce appropriate behaviors is most effective. The use of nonverbal consequences delivered in a calm manner to reinforce inappropriate behaviors is best.

Many students with FAS become accustomed to failing and the attention they receive from failing. When designing a behavioral program, the goal is to ensure success. It is critical for students to have the experience of being and feeling successful. These students have a high reinforcement tolerance level. Students may need to receive reinforcement for climbing steps toward the goal. They get them hooked on success, reinforce approximations and small improvements in appropriate behaviors. The

emphasis can gradually be shifted from extrinsic rewards to intrinsic motivation. Involving parents in establishing behavioral goals will increase the probability that the problem behavior will be under control. Establishing clear, open lines of communication with parents is beneficial in case there are changes or emergencies that need to be relayed (Burgess & Streissguth, 1997).

Social Skills Interventions

The area of social skills is one of the most important areas to focus on when working with children with FAS. Teaching social skills and communication should not be “extras” in the curriculum, but should be considered essential components. Most students with this disease often exhibit socially inappropriate behavior and are unable to consider the consequences of their actions. They have a hard time distinguishing between public and private behaviors (Weiner & Morse, 1994). They may be overly friendly, with the desire to be accepted, and their difficulty making good choices means their peers or adults can easily lead them into inappropriate behavior. Giving the student direct and immediate feedback about inappropriate social behavior, how it is affecting others, and how it is affecting the student is very important.

For younger students, play is a very important social interaction. The play of children with FAS is usually purposeless and aimless. Because of this, they miss out on the many social benefits that play provides. Most FAS students need to be taught how to play effectively and how to interact with others during play (Short & Hess, 1995). If students learn these skills early, they will likely stay with them as they get older.

The process of teaching social behavior skills involves three steps; modeling the behavior, practicing the behavior with guidance, and reinforcing the behavior outside of the training situation. Key social skills that the student should be reinforced for are knowing how to negotiate for what they want, how to accept criticism, how to show someone they like them, how to get someone's attention in a positive way, how to handle frustration and disappointment, and how to ignore someone who is bothering them (Burgess & Streissguth, 1997). It is important to develop a plan directly with the student and to give them choices as to what the reinforcement and consequences will be and how they will work on different strategies day by day. Encouraging the student to lead or become a part of other student's activities will help them understand the benefits of appropriate social behavior.

For an FAS student to develop appropriate social skills, they must also work on their own self-esteem. By helping the student understand FAS and their difficulties, helping them cope with every day stresses and pressures of living, and by allowing the student to make mistakes and learn from them can dramatically help how they see themselves and how they see others (Finnestad, 1997). FAS students need to be made to feel like they belong in the classroom and with their peers. It is important to build a "community" in the classroom, in which all students work together and respect each other (Root, 1997).

There is little disagreement between researchers and educators in this area of interventions and strategies for working with Fetal Alcohol Syndrome students. Researchers agree that early intervention is key and, as of now, before more specific

research is done in this area, strategies and interventions should be individualized based on the students' specific needs. Because not every student with FAS has the same symptoms or difficulties, different interventions and variety of interventions should be used for each student.

CHAPTER 3

IMPLICATIONS FOR SCHOOL PSYCHOLOGISTS AND OTHER EDUCATORS

School districts across the country have only just begun to realize the seriousness of FAS and how it affects each child differently. Because all students with FAS are unique, with different learning abilities and behaviors, it is difficult to develop a specific curriculum for all FAS students. Educating teachers and other educators, such as school psychologists, about FAS and different interventions and strategies to use with FAS students is key. Teachers, educators, and other professionals can be more effective if they have the knowledge to identify and the support to intervene. School staff members must be prepared to provide numerous services and interventions for FAS students. It is recommended that educators be provided with in-service training on the subject of Fetal Alcohol Syndrome.

There are three main areas that are recommended that educators should be knowledgeable in when working with FAS students; classroom management programs, identification/characteristics of FAS and manifestations, and classroom intervention strategies that can be used with the individual student (Herbst, 1995). Teachers will be better able to address and meet the needs of these children. FAS is completely preventable; therefore, programs need to be developed and implemented that teach students about the effects of drinking alcohol. Educators must take a proactive stance in establishing FAS preventative efforts. Also, with this knowledge, interventions can be better implemented and more effective, allowing for a greater chance that the child suffering from this disease will be helped (Phelps, 1995).

Timely identification and early compensatory programming can be one of the most important and most critical services a teacher and school psychologist can provide for FAS students (Phelps, 1995). FAS students are not simply learning disabled or behaviorally disabled, but are students who have a lifelong disability who need individualized programs and attention. Early intervention programs are critical to assist in optimal learning and to increase the child's potential for later learning (Short & Hess, 1995). School psychologists can start assisting families of children with FAS as early as infancy, by assisting with IDEA services and an Individualized Family Service Plan (IFSP), when needed. School psychologists and other educators can also be of assistance to families about quality care giving and infant-environmental interventions that can be used in the home to facilitate future learning. Also, at the preschool level, school psychologists can help the family find an appropriate program for the child that focus on his or her individual deficits and needs (Phelps, 1995).

For school-age children and adolescents, school psychologists can also be of much assistance when developing Individualized Education Plans (IEP) that are customized to meet the needs of the student. School psychologists can conduct evaluations, assessments, and interviews that may be necessary to locate problem areas and can help develop the intervention and classroom strategy programs that may be necessary for that child to succeed academically. As these FAS students reach high school age, school psychologists can assist the students by providing vocational counseling, job training skills, and/or adaptive living skills as necessary (Phelps, 1995). The psychosocial issues that are related to FAS, such as poor communication and social

skills, create a challenge for the community, but with the appropriate help and guidance by educators starting at an early age, these students can gain the appropriate skills to become successful in all areas of life.

Teachers, administrators, school psychologists, and other educators must all work together with parents to better incorporate effective interventions and strategies for the individual student in the classroom. Parents and teachers of students with FAS may have different viewpoints of what will be most effective for that student (Timler & Olswang, 2001). It is important to communicate regularly with parents to collaborate for consistency and agreement between home and school. If teachers and other educators do not accurately understand FAS, the FAS student may be inappropriately placed within the school system and may not receive the services and programs needed for intellectual development (Weiner & Morse, 1994). To ensure better understanding of this disease in the school system and collaboration with parents, there are three main recommendations: provide staff development and professional development programs to address FAS issues; provide regular and special education teachers with possible interventions and strategies to use within their programs; and to promote teamwork between educators in this area for support (Herbst, 1995).

Staff development should include all educators, from teachers to administrators to make certain that FAS is well understood by everyone in that school community. Staff development programs in this area should include training on what FAS is, including identification and manifestations of FAS, possible physical and intellectual developmental issues, and ways to adapt the curriculum to meet the individual needs of

the FAS student. Professional development courses and programs may also be offered by local colleges or universities to provide educators and future educators with the necessary skills to identify FAS, work with FAS students and their parents, and to be a member of a team working to collaborate new ideas and strategies to better work with FAS students.

Possible interventions and strategies should also be provided to educators in both the regular and special education programs. School psychologists can help in this area by researching new interventions that are being used in other school communities. As mentioned previously, FAS students generally have a learning disability, lack social skills, and may have behavior problems, among others. Classroom management techniques should also be discussed and provided. Interventions and strategies should focus on these areas, but still keeping in mind that individual symptoms and characteristics differ from one child to the next.

Teamwork is a very important part of education, especially in areas of education that may not be well understood by all educators, such as FAS. This collaboration and cooperation by all educational members can provide current information, expertise, interventions, training, and support services that can ensure that the necessary and essential information about FAS and working with FAS students is known by all educators, as well as others in the community (Herbst, 1994).

School psychologists also have the ability and influence to work with whole school districts on this subject. No single person or agency can combat this problem on their own, but again with many people in the school district and community involved the necessary issues of FAS, such as interventions and well trained educators, are more likely

to gain the attention needed. School psychologists can work with school districts to include questions about prenatal alcohol and drug exposure in the district health screening protocols. This is the first step in the early intervention process. By properly identifying at risk children, they can be properly placed in programs that can maximize their future academic potential. School psychologists can then help develop a plan for the distribution and use of information gathered from these health screenings. If children are found to have FAS or are at risk of having FAS, a plan will then be in place for a program right for their specific needs. School psychologists can also help the district plan and provide educational programs and opportunities for district educators regarding FAS. Again, the more educators know about FAS, characteristics, and possible interventions, the better it will be for the students they are working with. School psychologists can also develop a referral system for the students identified as having possible FAS. Beyond developing questions in the health protocol, a referral system should be in place for students that may be identified later in their schooling. All educators in the district should be aware and knowledgeable in this referral process. Lastly, and maybe most importantly, school psychologists can help develop a district wide plan for meeting the need of FAS students. Even though each student with FAS may need different services, a universal plan should be in place to serve these students. Such questions that should be answered in this plan are how these students should be categorized, what services are available to them, and who will provide these services. Without addressing these important questions, a school district cannot effectively work with FAS students and their families (Griffith, 1992).

Working with FAS children in the educational setting can be very difficult, for all educators including school psychologists. For an FAS child's education to be successful, he or she needs to be surrounded by educators that are educated in the disease and who have a positive attitude toward educating these children and that are able to recognize and strengthen the potential that these students have. Early interventions from school psychologists and other educators can maximize this potential by having appropriate plans and programs in place from an early age.

CHAPTER 4

CONCLUSIONS

Fetal Alcohol Syndrome is a very serious disease that is affecting more and more children in the school system each year. Because of the limited and somewhat non-existent empirical research in this area of specific interventions and strategies for FAS students and their characteristics that can be used in the classroom, it is difficult to focus on say exactly what is appropriate for each child. These children exhibit different levels of this disease, from severe to mild characteristics, and each have their own individual needs that need to be addressed in their interventions and strategies that should be used.

Interventions and strategies for specific learning disabilities, behavior disorders, and ADHD can be used for FAS students who show these symptoms and characteristics. Depending on the severity of the disease, there are universal accommodations that can be put in place to assist in the education process, such as a specific daily routine. Much more research is sorely needed in this area with the growing population of alcohol and drug affected children in the school system. But there is still a vast amount of information out there for educators about Fetal Alcohol Syndrome by experts in this area and professors who have observed and researched these children for years that provides information on what they can do in their classroom and the larger school community to better accommodate these students.

Having educators that are knowledgeable in the area of Fetal Alcohol Syndrome and school psychologists and administrators that are there to assist in the process of training these educators and offering possible interventions and strategies will only make

the process of early identification and effective program development easier on the school district and community as a whole. The more that is known by everyone in the district and community, and the more positive an attitude people have toward these students, the more successful they will be in their education and the more promising a future they will have.

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