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ABSTRACT

Research is presented on attention problems in children with learning disabilities, and suggestions for remediating the problems are offered. Variables involved are analyzed according to the setting (teacher-child ratio and lesson type); task (nature, props, and the rules); and teacher communication (number of teacher solicitations or questions, verbal reinforcement, and use of cues). The use of cognitive behavior modification, in which students are taught to talk to themselves about keeping on task, is also considered. A summary of 13 points of promoting attention includes organizing the setting to maximize time in a 1 to 1 teacher-child ratio; structuring the task tightly with clear rules, beginning and end points, and few transitions, and teaching children to cue and monitor their own behavior. (CL)

PROMOTING ATTENTION IN CHILDREN WITH LEARNING DISABILITIES: Techniques from a Research, Clinical and Classroom Perspective

By

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PROMOTING ATTENTION IN CHILDREN WITH LEARNING DISABILITIES:

Techniques from a Research, Clinical and Classroom Perspective

A wealth of evidence has accumulated in the last decade indicating that children with learning disabilities have attention problems. Some educators and psychologists have suggested that attention problems are the "cardinal" symptom of learning disabilities (Hallahan, 1978). Therefore, telling you, a group of educators, that poor attention is a significant disability for many children with learning problems is rather like "preaching to the choir".

There has developed in this last decade a vast literature on attention--not all of it surrounding the problems of children learning in school. The television industry with a market for selling cereal is interested in children's attention. The pharmocology industry with a market for behavioral managing drugs does extensive research in attention. The automobile and insurance industries, concerned with reaction times behind the wheel, are interested in attention. The airline and nuclear power industries, to name only a few, are interested in the skills necessary for vigilance, monitoring and attention to a task. While much research has been generated by all this concern over attention, and while these directions have influence the questions asked about attention and learning problems...most of it has not been very useful to those of us working with children in the classroom.

Dr. Ellen Bacon from the Developmental Evaluation Clinic at Duke University and I are here to help emphasize the kinds of research and clinical findings which are relevant and important to educators trying to work with and program for children who have attention problems. I train future special educators who will work with children who have learning disabilities and I have been doing attention research with these children and teachers since 1976.

We will share with you a look at "best practices" we have learned from research and clinical experience and help you translate them for remediation programs in which you are involved.

For the purposes of our discussion, let us set forth a few of the underpinning principles which have guided our work:

1) We agree with other educators and researchers, e.g. Antionette Krupski of UCLA (1981), Daniel Hallahan of the University of Virginia (1980), and Jacob Kounin and Paul Gump of Wayne State University (1974), that a look at the interaction of factors in a learning setting yields the most information about a child's attention problems.

2) If one wants to understand what promotes a child's attention to a learning task, one must study the learning setting, i.e. the classroom where the learning is or is not taking place (Scott, 1977).

3) Promoting attention to a task should be for the purpose of promoting a child's learning that task...i.e. attention is only a means (albeit an important means!) to that end.

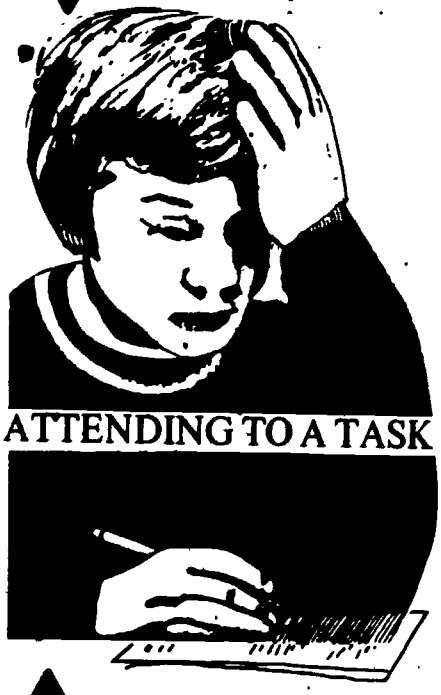
4) The actual "lesson environment" we will talk about include:

-the behaviors and capacities of the CHILD
-the props and rules of the TASK
-the verbal and nonverbal TEACHER COMMUNICATION
-some dimensions of the physical SETTING

[FIGURE 1]

CHILD

SETTING



ATTENDING TO A TASK

TASK

TEACHER
COMMUNICATION

If we look again at our model and what influences a child's attention to a task, it may be obvious that we have chosen to focus on variables that teachers or special educators have some direct control over--the TASK, the TEACHER COMMUNICATION, and to some degree the SETTING. Our best chance at remediating or overcoming attention problems is understanding what we can do to make the difference.

SETTING VARIABLES

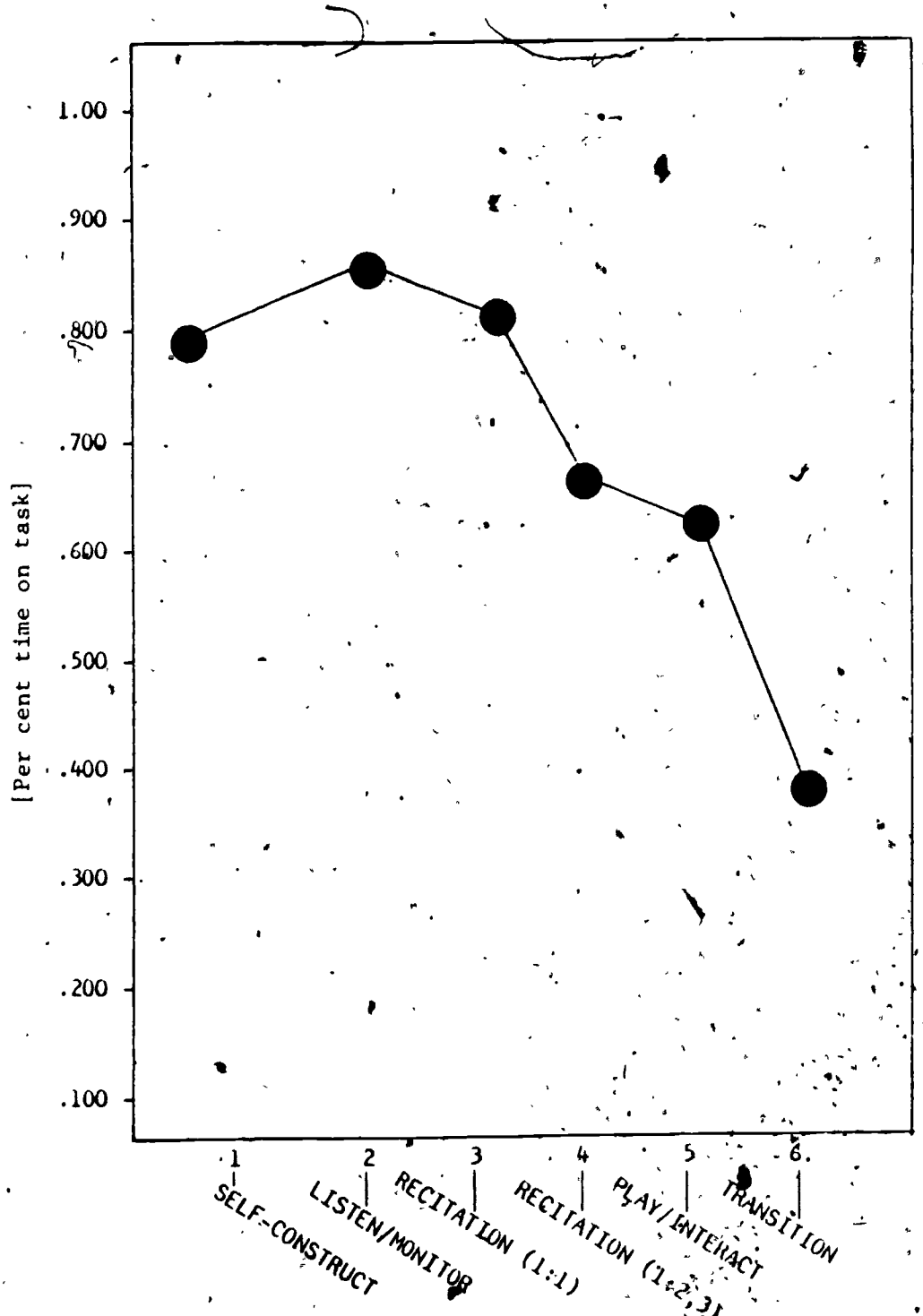
Let us first look at the SETTING and consider two dimensions. Choosing the most efficient TEACHER-CHILD RATIO and the correct LESSON TYPE is very important, if we want to maximize a child's attention. In a series of studies we did with learning disabled children in seven different special education resource rooms, we recorded when children were on-and-off-task and what ratios and lesson type they were involved in. We were attempting to determine what actually was going on in each learning environment which promoted attention.

One of the most important SETTING variables that affected a child's attention was the TEACHER-CHILD RATIO. Children in a 1:1 lesson setting had significantly more on-task behavior than children in lesson setting with small groups. TABLE 1 illustrates these findings. If attention promotes learning, then it seemed clear to us that a 1:1 teacher-child ratio was the most efficient one. Of course one might say, "But with increased demands on our services and funding cut-backs--that's dreaming!" We can, however, consider arranging a learning setting to accomodate a small group and still provide as much 1:1 instruction as possible. Considering the LESSON TYPE is useful here.

The second SETTING variable which helps us define "best practices" is LESSON TYPE. Using the theoretical work of Kounin and Gump (1974) who have tried to classify activities in the kindergarten setting which promote attending to a task, we classified special education lessons we observed into six types:

TABLE 1

ON-TASK BEHAVIOR BY LESSON TYPE



Self construction	[LTYPE 1]
Listen/monitor	[LTYPE 2]
Recitation 1:1	[LTYPE 3]
Recitation 1:2 or 1:3	[LTYPE 4]
Play/Interact	[LTYPE 5]
Transition	[LTYPE 6]

As can be seen in TABLE 2 a child in a 1:1 Recitation lesson with the teacher is much more likely to be on task than a child in a multiple recitation 1:2 or 1:3 lesson with the teacher. A child in LTYPE 2, under the headphones with a taped lesson was the most attentive of all. A child working alone on an assigned task, in which she or he manipulated her own props, was found to be relatively on-task though not as often as the former two lesson types (George, 1978). Similar findings have recently been reported by Rieth, Polsgrove and Semmel (1981).

This research evidence would indicate that the common teaching practices of multiple recitation lessons and follow-up, game-like lesson activites are much less likely to promote attention, and are therefore less efficient remediation strategies.

TASK VARIABLES

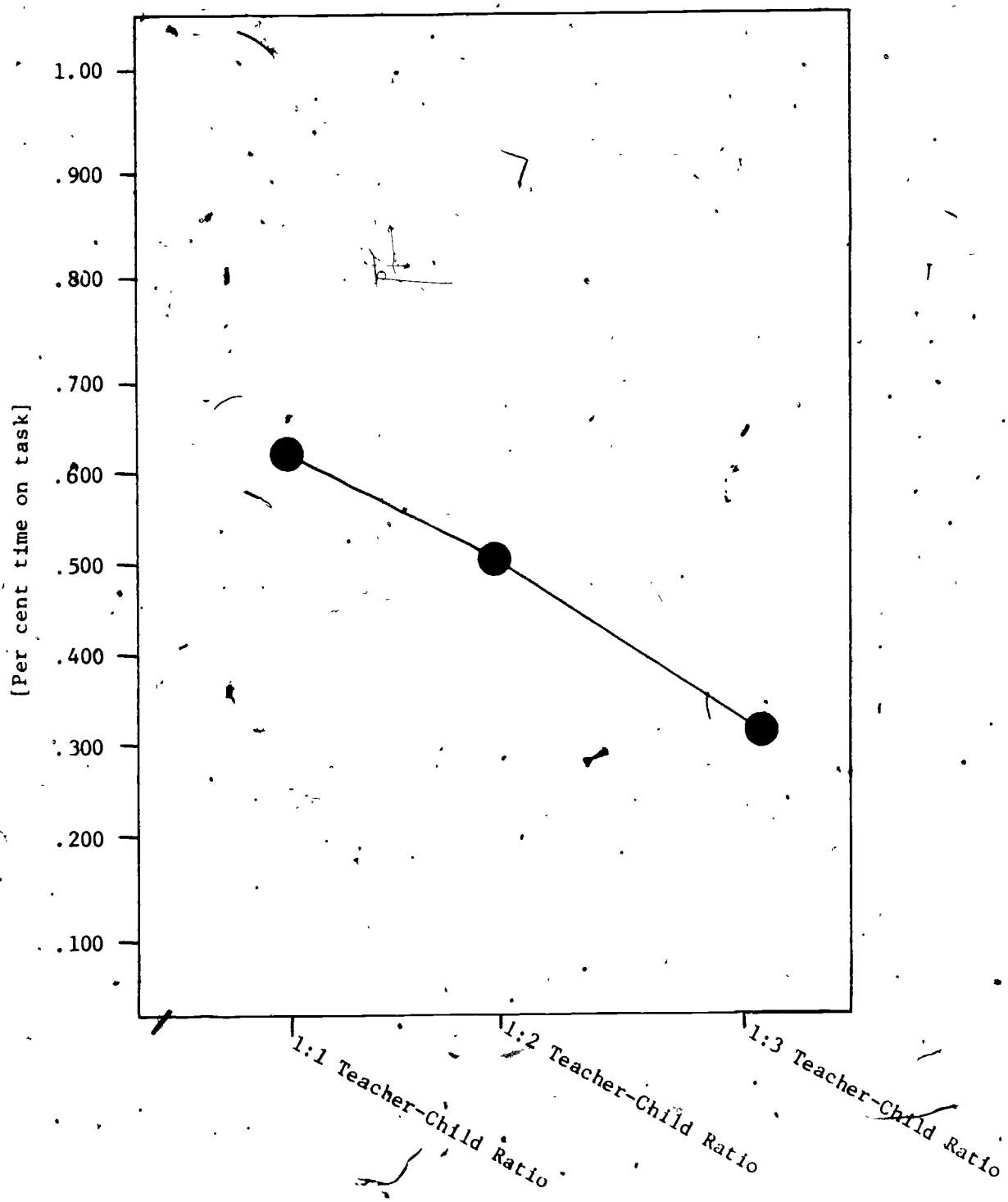
Research on the dimensions of the learning TASK show us that if we want a child to be on-task, we must pay careful attention to the nature, the props, and the rules of the TASK. We must give a child a task that is not too difficult or too easy. If the task is too hard, the child is inattentive, and likewise, if the task is too easy, the child is inattentive (Cantrell, 1974).

Secondly, a child will be more attentive if the task is broken into segments of short duration (Douglas, 1974). Here children's television research supports that duration is a powerful determinate of attention (O'Bryan, 1975). We probably can not reproduce Big Bird's ten second play on the letter "B", but we can break our tasks down in manageable parts.

Thirdly, when a child manipulates the props of the task, he or she is

TABLE 2

ON-TASK BEHAVIOR BY TEACHER-CHILD RATIO



more likely to be attentive (Kounin and Gump, 1974).

Fourthly, a task with a tight structure promotes more attention than a a task with a loose structure. Meichenbaum (1975) states that a highly structured task provides a child with "cognitive supports" necessary to maintain attention. Barbara Keogh (1972) defines a tightly structured task as one with a clear beginning and end points and where the rules are well defined. She proposes that a lack of structure increases the ambiguity of the task demands which causes the child to seek clues by glancing around, and appear or indeed be, off-task.

TEACHER COMMUNICATION VARIABLES

The third area we can use to promote attention in learning disabled children is TEACHER COMMUNICATION. This is the area that teachers have the most control over and its importance has not been stressed enough.

Much of the early DISTAR research and practice has taught us that communicating material in an "intense" way promotes attention to a task (Carnine, 1976). It is unclear if it is the pace of communicating the material or the number of child responses solicited which is significant, but some aspect of the intense "academic press" drill technique does enhance attention.

In our research, when we examined what teacher communications promoted attention to the task, the only significant communication was the number of teacher solicitations or questions (George, 1978). Here again, this would lead us to believe, that it may be how often a child gives a response during a drill type lesson that is the relevant factor. DEMONSTRATION A illustrates the fast paced "academic press" technique with lots of teacher solicitations/ questions and many responses by the child.

DEMONSTRATION A

Using a fast paced "academic press" technique

Teacher: Point to the word that begins with the "M" sound.
Child: [point]
Teacher: Say "Mouse".
Child: Mouse.
Teacher: Say "Mouse" very slowly. [Repeats three times]
Child: M -OU-S
Teacher: Say it fast! [Repeats three times]
Child: Mouse.

While we did not find that verbal reinforcement in general promoted attention, as other researchers have done (Geller, et.al., 1975), we did find some evidence that the number of specific and descriptive reinforcements presented by the teacher verbally was related to attention. This theory had been proposed by Douglas (1974). DEMONSTRATION B illustrates the use of specific, descriptive reinforcements.

DEMONSTRATION B

Using specific, descriptive verbal reinforcement

Teacher: Say a word that rhymes with "Mat". Use F--.
Child: Fat.
Teacher: Fat, good!
Teacher: When I point to it, say the word that rhymes with "Mat". [points].
Child: Fat.
Teacher: Fat, good! I like the way you waited for my point.

Teachers giving cues, both verbal and nonverbal, aid a child's attention (Allington, 1975). This is especially true, according to Trabasso and Bower

(1968), if the child knows exactly what the cues mean. Pointing to salient features of the material, giving leading sounds, snapping of fingers to demand a response, or hinting and modeling correct responses are cues which promote attention. DEMONSTRATION C shows the use of cues by the teacher. Perhaps one reason cueing works to promote attention, is that it retains the pace and allows the child to practice the correct response rather than lapse into the lag time accompanying "pause...pause...I don't know".

DEMONSTRATION C

Using verbal and nonverbal cues

Teacher:	Find the compound word--a word made up of two smaller words. Say them with me. [Takes child's finger and underscores single word]
Child:	Milk. [Says with teacher].
Teacher:	[Takes child's finger and underscores double word]
Child:	Birdhouse. [Says with teacher].

TRAINING THE CHILD

We have emphasized what the research teaches us is "best practice" for promoting attention using SETTING, TASK and TEACHER COMMUNICATION variables. But there is one final area where work is being done...the evidence is not all in and what has been done has not been very well translated for use by practioners in the schools. It is the area of "cognitive behavior modification"...or teaching a child to talk to himself about keeping on task (Kneedler and Hallahan, 1981). David Meichenbaum has pioneered in this area of research. He urges us to analyze the demands of a specific task and teach a child to talk himself or herself step-by-step through the task. DEMONSTRATION D illustrates this concept.

DEMONSTRATION D

A child talks himself through a task to find one different

Child:	I think I can do this task.
Child:	I'll look at the first one real well.
Child:	I'll point to the second one and ask myself if it is like the first one.
Child:	I'll point to the third one...etc.
Child:	Have I paid attention to every one? I have.
Child:	Now I can answer.

This technique of teaching a child to monitor or talk to himself, warn Kneedler and Hallahan, is probably most effective with a child who knows the skills, but does not apply them. Its application may be useful with some learning disabled children and not others.

Argulewicz also focuses on training the child in attention behaviors (1982). He has found that training children in the specific behaviors of "squaring the shoulders toward the task, leaning the body forward, and placing the eyes on the work" actually promotes attention. Argulewicz' research and the findings of the cognitive behavior modification researchers reminds us that we can not take for granted that learning disabled children know how to attend--it is likely they do not.

In summary, we can set up our resource rooms or our tutorial sessions in such a way to maximize a child's attention to the learning task. Given the state of the clinical and research findings and art, as we know them in 1982, it is suggested that we practice the following:

DEMONSTRATION D

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(George, 1982)

A SUMMARY OF THE STATE OF THE RESEARCH AND CLINICAL ART ON PROMOTING ATTENTION IN LEARNING DISABLED CHILDREN

1. Organize the learning setting to give maximum time in a 1:1 teacher-child ratio to each child.

2. Use that 1:1 time in a recitation/tutorial lesson when we can--and when we can not, tape lessons which the child can monitor under the headphones.

3. Avoid traditional multiple (small group) recitations and play/interact lesson activities.

4. Structure the task tightly with clear rules, beginning and end points, with few transitions.

5. Break the task into small parts.

6. Use props in the task that the child can manipulate.

7. Make sure the task is not too easy or too difficult.

8. Ask many questions which demand many child responses.

9. Pace those questions (or solicitations) fast enough to hold the child's attention.

10. Cue the child if the response does not come easily or in enough time to avoid lags.

11. Use specific and descriptive verbal reinforcements.

12. Teach a child to cue or talk to himself or herself and monitor his own attending behavior.

13. Teach a child the specific body posture and behaviors associated with attending to a task.

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