

DIFFERENCES IN ELEMENTARY SCHOOL TEACHERS'
INSTRUCTIONAL ENVIRONMENTS AND PERCEIVED
COMPETENCE TOWARD CHILDREN WITH ADHD
AS A FUNCTION OF ATTITUDES TOWARD
CONTROL VS. AUTONOMY, TRAINING,
AND EXPERIENCE

By

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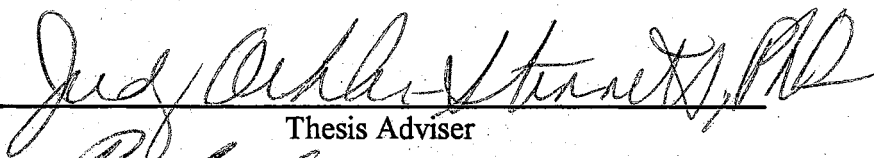
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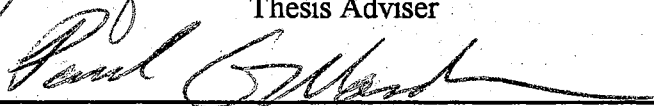
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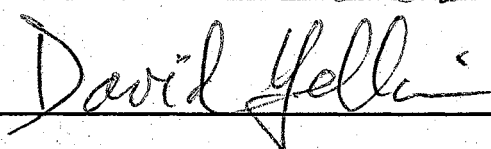
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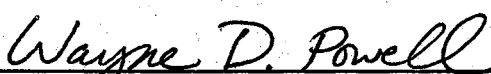


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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION.....	1
Introduction to the study.....	1
Purpose of the Study.....	6
Statement of the Problem.....	8
Significance of the Study.....	8
Definitions of Terms.....	9
Research Questions.....	10
Research Hypotheses.....	11
Assumptions.....	12
Limitations.....	12
Organization of the Study.....	13
II. LITERATURE REVIEW.....	15
A Brief History of ADHD.....	16
The Student with ADHD.....	18
Inattention.....	19
Hyperactivity/Impulsivity.....	20
The Teachers.....	22
Motivation.....	22
Characteristics.....	26
The Classroom Environment.....	29
III. METHODOLOGY.....	36
Participants.....	36
Instruments.....	37
<u>The "Problems in Schools" Questionnaire: A Measure of Adults'</u> <u>Orientations Toward Control Versus Autonomy with Children</u>	37
<u>The Instructional Environment System - II (TIES-II): A System to</u> <u>Identify a Student's Instructional Needs</u>	38
<u>Instructional Environment Form</u>	40

Chapter	Page
<u>Instructional Needs Checklist: "Instructional Modifications"</u>	41
<u>Teacher Questionnaire</u>	42
Procedures	43
Design/Data Analysis	43
 IV. RESULTS	 45
Hypothesis 1	46
Hypothesis 2	49
Hypothesis 3	49
Hypothesis 4	50
Hypothesis 5	51
Hypothesis 6	51
 V. DISCUSSION	 54
REFERENCES	63
APPENDIXES	69
APPENDIX A - INTRODUCTION LETTER TO TEACHERS	69
APPENDIX B - "PROBLEMS IN SCHOOLS" QUESTIONNAIRE	71
APPENDIX C - ADHD CHARACTERISTICS LETTER	80
APPENDIX D - ADHD CHARACTERISTICS LIST	82
APPENDIX E - INSTRUCTIONAL ENVIRONMENT QUESTIONS	84
APPENDIX F - INSTRUCTIONAL MODIFICATION CHECKLIST	92
APPENDIX G - TEACHER QUESTIONNAIRE	94
APPENDIX H - TEACHER PERSONAL DATA	97
APPENDIX I - INSTITUTIONAL REVIEW BOARD APPROVAL FORM	99
APPENDIX J - ANALYSIS OF VARIANCE OF TOTAL TEACHERS' RESPONSES ON INSTRUCTIONAL ENVIRONMENT: PRESENT	101

Chapter	Page
APPENDIX K - ANALYSIS OF VARIANCE OF TOTAL TEACHERS' RESPONSES ON INSTRUCTIONAL ENVIRONMENT: IMPORTANT FOR ADHD.....	103
APPENDIX L - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON INSTRUCTIONAL MATCH.....	105
APPENDIX M - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON MOTIVATIONAL STRATEGIES.....	107
APPENDIX N - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON ACADEMIC ENGAGED TIME.....	109
APPENDIX O - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON ADAPTIVE INSTRUCTION.....	111
APPENDIX P - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON PROGRESS EVALUATION.....	113
APPENDIX Q - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON STUDENT UNDERSTANDING.....	115
APPENDIX R - ANALYSIS OF VARIANCE OF TOTAL TEACHERS' RESPONSES ON INSTRUCTIONAL MODIFICATIONS..	117
APPENDIX S - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON SELECTION OF MATERIALS.....	119
APPENDIX T - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON COOPERATIVE LEARNING.....	121
APPENDIX U - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON PEER TUTORING: EFFECTIVENESS.....	123
APPENDIX V - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON PEER TUTORING: COMPETENCE.....	125
APPENDIX W - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON MODIFYING THE TASK: KNOWLEDGE.....	127
APPENDIX X - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES ON SELF-MONITORING.....	129

APPENDIX Y - ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
ON FEELING PREPARED FOR TEACHING STUDENTS
WITH ADHD.....132

APPENDIX Z - TABLES OF MEANS, STANDARD DEVIATIONS,
FREQUENCIES, AND ANALYSES OF VARIANCE OF
TEACHERS' RESPONSES.....134

CHAPTER I

INTRODUCTION

Introduction to the Study

In recent years many research projects have been conducted regarding students with the diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD). The interactions of these students with ADHD have been examined on the subjects of their relationships with their peers (Gadow et al., 1992) and their relationships with their siblings and parents (Faraone et al., 1996). From a medical viewpoint studies have considered ADHD topics such as the effects of medication (Gadow et al.) and the role of heredity (Faraone et al.). Classroom studies have looked at students with ADHD from the perspectives of their behavior (Umbreit, 1995), their intellectual performance and school failure (Faraone et al., 1993), and intervention strategies used in their management (DuPaul & Eckert, 1997).

Areas sometimes overlooked in the ADHD studies include the effect of the individual teacher on the student and the contribution of the teacher toward exacerbating or ameliorating the specific ADHD-related problems which the student experiences. Research regarding the characteristics of the teachers of students with ADHD is deemed to be merely “embryonic” at best (Greene, 1996). To examine the ADHD phenomenon in the classroom, all the major components in the classroom should be addressed. The

student who has the ADHD condition and the classroom environment are parts of the composition of that educational dynamic; the teacher is also a part. Teachers with different teaching attitudes, training and experience may affect students with ADHD in different ways. Teaching styles usually evolve from one's philosophy, and different teaching styles potentially could be either productive or counterproductive. In one related study Deci, Nezlek, and Sheinman (1981) contend that generally people feel more competent when they have successful experiences, and less competent when they experience failure. This concept could also be applied to teachers specifically.

Motivation is of concern to all teachers. Elementary school teachers, especially, struggle daily with the issue of how to develop and stimulate motivation in their students. The pre-schooler involved in play-of-choice shows great curiosity and motivation to learn, but the compulsory tasks involved in the school curriculum are more likely considered by the child to be work (Brophy, 1987). As ability relates to whether a student can perform, motivation relates to why a student does perform (Clarizio, Craig, & Mehrens, 1987). A conscientious teacher searches for the motivation that persuades, encourages, and entices a student to do school work.

Motivation is generally characterized as being either extrinsic or intrinsic. Extrinsic motivation involves external reward or reinforcement. In contrast, intrinsic motivation involves working on a task because of one's own personal drive and interest (Stipek, 1988). Brophy (1987) states that teachers can motivate students extrinsically to do class assignments, which an external reward system will accomplish, but they can also motivate students intrinsically to learn and to see worth and importance in the learning process itself.

Intrinsic motivation is perceived ultimately to be more enjoyable and more rewarding with the result of more genuine learning than is developed with extrinsic motivation (Stipek, 1988). Aspects that are seen as important facets of intrinsic motivation are competency, curiosity, autonomy, and internalized values (Stipek). Students working from a base of intrinsic motivation have been found to have a better conceptual understanding of the material studied than those working strictly from extrinsic motivation (Grolnick & Ryan, 1987). Greater pleasure and greater emotional involvement are believed to be experienced by those individuals who are intrinsically motivated as opposed to those who are extrinsically motivated (Stipek). It logically follows then that the attention of the students is more focused on the task at hand when they are operating from intrinsic motivation rather than from extrinsic motivation (Nicholls, 1984). This should be especially important for students such as those with ADHD for whom according to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (4th ed., 1994) maintaining focused attention is a serious challenge.

Intrinsic motivation is enhanced when tasks are “moderately challenging, novel, and relevant” to the lives of the students involved (Stipek, 1988). This excludes tasks which students see as being too easy, too difficult, repetitive, and/or irrelevant to their own individual lives. Intrinsic motivation also includes allowing some student choices which are needed for developing the organization and management skills essential for success in secondary school and later in the adult world of work (Stipek).

Many teachers fear allowing students to make choices. Control of the students is closely related to extrinsic motivation. Many teachers fear that by giving students more

control they are losing their own control of their class. Some schools and school districts highly value control, stress it to their teachers, and hold them accountable for it.

Currently, common practice in many schools is to place students with ADHD in the classrooms of teachers who are known as strict disciplinarians in an attempt to keep those students under control. However, there are no data to verify that this is actually the best practice, and such information would be helpful for teachers and school administrators.

Studies have shown a direct relationship between teachers' characteristics and the motivation of children. Children taught by more controlling teachers were less intrinsically motivated and had less self-esteem than were children taught by more autonomy-oriented teachers. Rewards given by a controlling person tended to undermine children's existing intrinsic motivation (Deci, Nezlek, & Sheinman, 1981). Teachers who attempt to be more controlling may be self-defeating in that their students may actually be less motivated and accomplish less.

Teachers have been assessed in regard to their levels of motivation and control of students from various categories. Research has been conducted on adults' orientations toward children in regard to motivation and competence (Deci, Schwartz, Sheinman & Ryan, 1981). More recently a study investigated these same areas (motivation and competence) concerning students with learning disabilities and emotional difficulties (Deci, Hodges, Pierson & Tomassone, 1992). The issue of a "goodness-of-fit" relationship between teachers and students with ADHD has been proposed (Greene, 1996). More examination of teachers' characteristics needs to be performed in order to determine more accurately a "best fit" relationship, thus assuring the student of a more optimal learning environment (Greene). It appears that this type of assessment regarding

teachers and students with ADHD would be equally beneficial to teachers who currently may be struggling with attempts to find appropriate instructional methods for these students.

Rather than testing, grading or evaluating teachers, which can sometimes be seen as threatening, a more productive pursuit might be surveying the teachers' perceptions of their classroom settings in which they and their students with ADHD come together. One approach to exploring the teacher-student-classroom relationship developed recently is The Instructional Environment System-II (TIES-II) by Ysseldyke and Christenson (1993-1996). This assessment system explores twelve instructional environment components and five home components which have been researched and ascertained by Ysseldyke and Christenson to be the significant areas which determine a student's success or lack of success in the classroom. The concept proposed by TIES-II is the importance of determining which of these components is present in an educational setting and which is relevant for each student. Identifying these areas may then pinpoint areas where change is needed in order to help increase that student's school success (Ysseldyke & Christenson).

As one of the important instructional environment components TIES-II conceptualizes effective motivational strategies as those which increase student interest and effort when they are used with the student. They are meant to bring about the student's understanding of the relationship of the assignment to real, practical situations. Thus, the instruction relates to the student's interest and personal experience. Additional extrinsic motivational strategies, such as rewards, are used when appropriate. The student is shown how to do the work and is reassured that he/she can do it. Thus, the student is

helped to believe in his/her own ability to do the task. Finally, the student is seen as being personally responsible for doing the work and for his/her own level of performance (Ysseldyke & Christenson, 1993-96).

In summary, the teachers of students with ADHD have not been studied as have the students and the management techniques used for them. Therefore, having a more complete picture of the teachers of students with ADHD, examining their teaching styles of controlling or building autonomy in students, and their assessment of the classroom needs of these students may be beneficial.

Purpose of the Study

Students demonstrating ADHD symptoms often struggle in school and may have low academic achievement scores, underachievement relative to their intelligence and achievement test scores, anxiety, depression, low self-esteem, and high frustration in regard to school in general (Barkley, 1990). Success in school and the school environment are greatly influential for school-age children in forming their self-concepts or feelings of self-worth (Wilson, 1995). School success has been viewed as being so important to the individual that “no single thing contributes more to a student’s sense of worth than does a good report card” (Covington & Teel, 1996, 10). This idea of one’s self may affect the degree of willingness one has to try new tasks or to persevere when challenged (Wilson). Therefore, academic success is important not only in and of itself, but also for its effect on the confidence and self-concept of the individual and on his/her future educational endeavors. In other words, success leads to success. This is

particularly significant for students with ADHD for whom impairment in school functioning is identified as a major characteristic in the DSM-IV (1994). Recent research has revealed that while the most successful current interventions for students with ADHD do result in positive academic effects, the improvements are “uniformly in the low range” (DuPaul & Eckert, 1997, 22). Consequently, more research work in this area is needed.

Teachers often struggle with these students with ADHD and become equally as frustrated as their students in their attempts to teach them. It has been suggested that teacher-training programs do not adequately prepare their pre-service, general education teachers for dealing with these students who have ADHD characteristics. This is in spite of the current estimate that every public education classroom in the United States has an average of one ADHD-type student (Greene, 1996). This amounts to approximately three to five percent of the elementary school student population (DSM-IV, 1994).

More information needs to be known about the teacher characteristics that are relevant in the interactions between teachers and students with ADHD. Increased knowledge about the relationships between teachers and these students with ADHD might be helpful to both students and teachers. Schools might be able to assign students for a more accurate “goodness-of-fit” with teachers. Students might be more academically successful, and teachers might feel less frustration and more success in regard to these students. As a result teachers might be able to do a better job of teaching with all of their students. Little is known regarding the impact of specific teacher attitudes, training and/or experience on the classroom environments they create for working with students with ADHD. Although nearly all teachers work with students with

ADHD, few facts are available about the teachers' feelings of competence in their dealings with these students.

Statement of the Problem

The problem of this study was to determine if certain teacher characteristics contribute to their perceived success with students with ADHD. More specifically, the purpose was to see if controlling teachers and autonomy-encouraging teachers vary in their instructional environments and in their personal perceptions of their own competence and willingness to utilize specific classroom interventions for students with ADHD.

Significance of the Study

Investigation regarding the differences between teachers who are more controlling and those teachers who are more autonomy-enhancing in regard to students with ADHD would be useful. At this time there are no data to verify which of these differences is the best practice for these students, and such information could be beneficial. There may be differences in how teachers perceive their efficacy in relation to teaching students with ADHD. Variance may exist between those teachers who have received specific training in working with students with ADHD and those who have not, between novice teachers and those with greater experience, and in their instructional environments. If there are some characteristics of teachers who perceive a greater efficacy in teaching students with

ADHD which are different from the characteristics of those teachers who do not discern such efficacy, this information could be helpful.

Currently, the success of students with ADHD is marginal at best (Greene, 1996). Both students and teachers may be helped by information in this study. Students with ADHD may feel more successful, more involved, less frustrated, and be less likely to quit trying and/or be disruptive. Teachers may feel less frustrated and less exhausted in their interactions with students with ADHD. Teachers may feel more competent and more positive in working with these students and, therefore, with their students in general. Consequently, teachers may experience less “burn-out,” less professional exhaustion and a more positive attitude toward contemporary education in the elementary grades. Although this may be only a small piece of the puzzle to assist teachers in helping students with ADHD to have a better school experience, it may be an important one.

Definitions of Terms

Students - as referred to in this study are children who attend public elementary schools in grades one through six. This generally includes children whose ages range from six to twelve years.

ADHD - is used here to include those students who have been formally diagnosed with the condition. This encompasses all types of Attention-Deficit/Hyperactivity Disorder as presented in the DSM-IV (1994). This covers the specific diagnoses of Attention-Deficit/Hyperactivity Disorder, Predominately Hyperactive-Impulsive Type; ADHD, Predominately Inattentive Type; ADHD, Combined Type; ADHD, Not

Otherwise Specified; and ADHD, In Partial Remission (DSM-IV).

Teachers - included are individuals employed full-time in teaching in public elementary school classrooms in Oklahoma. This research study was limited to teachers of children in grades one through six. Teachers participating were anticipated to represent a wide range of training and experience.

Research Questions

The research questions explored here relate to the individual characteristics of public elementary school teachers and the impact these characteristics have on their classroom environment and their perceived teaching efficacy, particularly in regard to students with ADHD.

The following research questions are posed:

1. Do teachers who emphasize control over students differ in the instructional environment they create from teachers who emphasize and encourage more student autonomy?
2. Are controlling teachers or autonomy-promoting teachers more likely to perceive themselves as being more competent in dealing with students with ADHD?
3. Are there differences in the classroom environments of teachers who receive specific training in working with students with ADHD from the classroom environments of those who do not?

4. Are there differences in teachers' perceived competence between those who have received specific training in working with ADHD students and those who have not?
5. Is there a difference between novice and experienced teachers in their instructional environments?
6. Is there a difference between novice and experienced teachers in their perceived competence?

Research Hypotheses

Hypothesis 1 – There is a difference in the instructional environment of teachers who are more autonomy-encouraging with their students from that of teachers who are more controlling.

Hypothesis 2 – There is a difference in self-perception of competence in dealing with students with ADHD between teachers who are more autonomy-promoting and teachers who are more controlling.

Hypothesis 3 – There is a difference in the classroom environments of teachers who have received specific training in working with students with ADHD from the classroom environments of those teachers who have not received such training.

Hypothesis 4 – There is a difference in self-perception of competence between those teachers who have received specific training in working with students with ADHD and those teachers who have not.

Hypothesis 5 - The instructional environments of experienced teachers are different for students with ADHD than are those of novice teachers.

Hypothesis 6 – There is a difference in self-perception of competence in working with students with ADHD between novice teachers and experienced teachers.

Assumptions

For this study it was assumed that the measured variables for the individual teacher participants were normally distributed in the population. It was also assumed that each participant was mutually independent (Keppel, 1982).

Limitations

Teachers participating in this study did so voluntarily. Therefore, information gained was limited to being obtained from cooperative volunteers. Any gender differences, which may exist between male and female teachers, were limited by the small number of male teachers in elementary school classrooms. Differences which may exist between school districts in general orientation to students may have affected results; however, this variance should be normally distributed given the variety and number of schools from which teacher participants were drawn. The results of this study are limited to rural and small town schools in the mid/southwest of the United States. Results may not be generalizable to apply to a different or larger population.

Organization of the Study

The first chapter of this study is an introduction and overview of the problem to be addressed. The second chapter is a review of the relevant literature with emphasis on recent literature. This chapter will be divided into four main parts. First, is a brief survey of the history of ADHD. Second, the student is looked at with particular focus on the ADHD characteristics of the elementary school aged student. The third section of Chapter II reviews the literature on teachers' motivation of students, assessing their teaching characteristics, teaching strategies, and classroom management. This focuses particularly on the elementary teacher in regard to autonomy vs. control in teaching the ADHD student. In the fourth section of Chapter II the literature is reviewed concerning the instructional environment of the elementary school classroom, particularly as it is managed for the student with ADHD.

Chapter III encompasses the methodology used in conducting this research study. Included is a description of the participants, the research instruments and the procedures performed in collecting data. Chapter III also contains a description of the research design and the statistical analyses of the data that was utilized.

Chapter IV, Results, contains the results of the study in regard to each research question. Chapter V, Discussion, incorporates a summary of the study, conclusions drawn from the statistical analyses, and limitations of the study. Proposed practice and directions for future research are presented as well.

These five chapters are followed by a list of References and Appendices. Included in the Appendices are the approved Institutional Review Board (IRB) proposal,

samples of the assessment instruments that were used, analyses of variance, and means tables.

CHAPTER II

LITERATURE REVIEW

As noted previously, in order to examine the ADHD phenomenon in the classroom, the major components of the student, the classroom, and the teacher were investigated. Children with ADHD often have their greatest struggles in school (DSM-IV, 1994). Much has been written about these students, their symptoms and behaviors, how to control them, classroom organization to benefit them, and classroom management to accommodate them. However, little has been studied previously regarding the teachers of these children. Therefore, the focus of this study is on the teacher. The second chapter of this study discusses the educational components: student, teacher, and classroom. First discussed is a brief history of the ADHD condition. The second topic addressed is the student with ADHD, paying attention to particular detail involving the individual characteristics that are generally considered indicative of ADHD. The next topic considered is teachers and some of their concerns. The final section is about the classroom, or instructional environment, with particular concern for its characteristics and its impact on the student with ADHD.

As noted, in most research up to now the teachers seem to have been the least examined part of this ADHD educational composite. Therefore, the teachers are the focus of this study. Here The “Problems in Schools” Questionnaire: A Measure of

"Adults' Orientation Toward Control Versus Autonomy with Children" (Deci, 1981) was used to assess teachers' attitudes toward students. The final section of this chapter is an investigation of the elementary school classroom as it relates specifically to the student with ADHD. Included is a survey of the traditional suggestions and methods that have been implemented to assist these students in school and to help in structuring their classroom environment. In this endeavor The Instructional Environment System-II, also known as TIES-II, (Ysseldyke & Christenson, 1993-1996) was utilized. Additionally, an original Teacher Questionnaire was used to inquire about teachers' familiarity, perceived effectiveness, and perceived competence with eight varied classroom interventions for use with students with ADHD. This questionnaire included a demographics page containing inquiries about education, gender, race, teaching experience, school district size and training, and specific training for working with students who have ADHD. Questions that might otherwise be considered sensitive, such as age, were asked in broad grouping categories. With questions presented in this manner, individual participants cannot be identified from their responses, thus further protecting their anonymity. Each of these instruments is included in the Appendixes.

A Brief History of ADHD

For centuries people have noticed individuals demonstrating the characteristics that we know today as identifying ADHD. As early as the seventeenth century literary works referred to individuals who are hyperactive, inattentive, and impulsive. For

example, in Henry VIII William Shakespeare (1623; 1948) described one of his characters as having a “malady of attention.”

In the mid-nineteenth century some children were reported to demonstrate these symptoms following disease and/or head injuries (Taylor, 1986). By the early twentieth century such behaviors were described as being found in “mean and passionate kids” (Still, 1902 as cited in Barkley, 1989, 1997; Morgan, 1997). These behavioral defects were thought to be more the result of biological factors (heredity, trauma, and disease) rather than being caused by poor parenting. In the 1930’s the condition was identified as “minimal brain damage” and attempts were made to treat it with stimulant medications (Morgan). In the 1940’s the use of this term was continued and the idea was proposed that all such behaviors in children were the result of some injury to the brain, with or without such history being known. Recommendations for treatment included reducing stimulation and distraction in their classrooms (Strauss & Lehtinen, 1947). This practice remains widespread in current use in spite of little proof of its benefit (Routh, 1978). With the emphasis still on above-average physical activity the name evolved to “minimal brain dysfunction” and then eventually to Hyperkinetic Reaction of Childhood in the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (2nd ed., 1968).

By the publication of the American Psychiatric Association’s third edition of the Diagnostic and Statistical Manual of Mental Disorders (1980) the condition was first officially identified as an attention problem with the diagnostic title of Attention Deficit Disorder and subtypes with or without hyperactivity. In 1987 the revised third edition of the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental

Disorders altered the diagnostic designation once more to be Attention Deficit-Hyperactivity Disorder, but without the subtype of an individual not having hyperactivity. In DSM-IV (1994) the label of Attention Deficit/Hyperactivity Disorder is still used with the added subtypes indicating emphasis on inattention, hyperactivity-impulsivity, or a combination of both. This label usage is continued in current designations.

The Student with ADHD

Many characteristics or symptoms have been suggested in attempts to identify the individual who has Attention Deficit with Hyperactivity Disorder (ADHD). These are often grouped in various ways. The “official” names and designations (Fowler, 1994) are presented in the DSM-IV (1994), which is considered by many professionals to be the standard. In it Attention-Deficit/Hyperactivity Disorder (ADHD) is identified as having the essential feature of a “persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development” (DSM-IV, 78). This condition is generally estimated to occur in three to five percent of school-age children (DSM-IV) which currently presents an average of one child in each public school classroom (Greene, 1996). Some researchers estimate the prevalence to be as high as twenty percent of children, depending on the degree and preciseness of criteria used (Ross & Ross, 1982). In the general population estimates are that ADHD occurs about four times more frequently in boys than in girls (Barkley, 1990).

The DSM-IV (1994) diagnostic criteria focus on the symptoms of inattention and hyperactivity/impulsivity being present in an individual “to a degree that is maladaptive and inconsistent with developmental level” (DSM-IV, 83) of the person.

Inattention

Inattention is described as exhibiting six or more of the following symptoms for at least six months:

- a) often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- b) often has difficulty sustaining attention in tasks or play activities
- c) often does not seem to listen when spoken to directly
- d) often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- e) often has difficulty organizing tasks and activities
- f) often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- g) often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- h) is often easily distracted by extraneous stimuli
- i) is often forgetful in daily activities (DSM-IV, 1994, 83-84).

Hyperactivity/Impulsivity

Hyperactivity/impulsivity is characterized by the presence of six or more of the following symptoms for at least six months:

Hyperactivity

- a) often fidgets with hands or feet or squirms in seat
- b) often leaves seat in classroom or in other situations in which remaining seated is expected
- c) often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- d) often has difficulty playing or engaging in leisure activities quietly
- e) is often “on the go” or often acts as if “driven by a motor”
- f) often talks excessively

Impulsivity

- g) often blurts out answers before questions have been completed
 - h) often has difficulty awaiting turn
 - i) often interrupts or intrudes on others (e.g., butts into conversations or games)
- (DSM-IV, 1994, 84).

For diagnosis some of the symptoms (inattentive or hyperactive-impulsive) which cause impairment must have been present before the age of seven years. The impairment caused by these symptoms must be present in at least two settings, such as school and home. This impairment must be demonstrated to the degree of clinical significance in the individual's functioning in social, academic or work settings (DSM-IV, 1994).

The three subtypes of ADHD are identified (DSM-IV, 1994) as being (a) the Predominantly Inattentive Type which manifests six or more of the inattention symptoms, but fewer than six of hyperactivity-impulsivity, (b) the Predominantly Hyperactive-Impulsive Type which exhibits six or more of the hyperactivity-impulsivity symptoms, but fewer than six of inattention, and (c) the Combined Type which has six or more symptoms of each category demonstrated. Most ADHD children have the combined type (DSM-IV).

Other characteristics, or groupings of characteristics have been proposed for identifying ADHD more clearly and completely. One recent work suggests that for appropriately identifying ADHD students the following performance areas should be considered: behavioral inhibition, memory, self-regulation, internalization of speech, and reconstitution. Within these areas the official symptoms of attention/distraction, impulsivity, and hyperactivity as well as Barkley's (1997) characteristics of compliance, self-control, and problem-solving can all be incorporated. (Oehler-Stinnett, Boykin, & Matlock, 1997). However, for the purposes of this paper, ADHD was determined following the DSM-IV (1994) criteria.

The Teachers

In order to determine characteristics of teachers who are effective in working with students who have ADHD, first some of the basic attitudes and characteristics of the teachers were explored. Next, the teachers' classrooms (instructional environments) which they have established were examined, and finally the teachers' classroom interventions, self-perception of competence, and training were studied

Motivation

Teachers need to be assessed to determine some of their common concerns and attitudes. One area of concern for all teachers is how to motivate their students. Motivation is that factor which relates to why a student performs (Clarizo, Craig, & Mehrens, 1987). This is of particular concern for teachers in regard to students with ADHD who, as noted previously, frequently have difficulty sustaining attention and organization to see a task through to completion (DSM-IV, 1994

The terms of Pawn and Origin are used to separate and point out these two "motivational states that are basic to personal causation," or locus of causality (deCharms, 1976, 4). DeCharms identifies "personal causation" as fundamental to motivation. Although external situations may influence one's behavior, the individual sees oneself as the cause for the behavior at the point in time when one "decides to act from personal commitment" (deCharms, 4). The Origin person is the one who feels in charge of one's self and life, whereas the Pawn person is the one who feels used or pushed around by some outside person or external force. The Origin person is one who

feels powerful, positive, self-assured and willing to accept a challenge, but the Pawn person is basically the opposite while feeling without power, negative, guarded, and unwilling to accept a challenge. The distinction does not relate to one's motive or goal, but to an individual's feelings which effect how one relates to goals and to goal setting. The most important difference between Origin and Pawn has to do with the individual's unique feelings about his/her own abilities and the personal forces that are felt to influence him/her. From a practical perspective the Origin relates to feelings of purpose, commitment, and responsibility whereas the Pawn feels helpless, powerless, and futile (deCharms).

An individual is not always an Origin, nor always a Pawn. Each situation may influence one's behavior and feeling about it. Some situations demand a certain behavior with little or no choice, but other situations may allow more freedom of choice and behavior (deCharms, 1976). For a school setting, both feelings, Origin and Pawn, might be appropriate at different times and in different situations. In relation to new learning and accepting self-responsibility, helping a student to become an Origin would be preferred. This would not be determining the student's goals, but rather helping him/her "develop commitment and purpose so that he [sic] can reach his own goals more effectively" (deCharms, 5).

To help develop as an Origin the individual must experience excitement, direction and responsibility. The problem in the school setting then would be how to "create conditions that will stimulate commitment and responsible choice felt to be originating from within the individual" (deCharms, 1976, 6). In order to create this environment which promotes one to feel and behave as an Origin, certain conditions must be present

involving four main parts. A warm, accepting ambience in which the individual feels accepted by others needs to exist where the person is inspired to self-examine motives. This same milieu should assist the individual in transferring these motives into long-term and short-term goals and to make realistic plans for reaching them. This environment should also help the person learn to accept responsibility for choosing the goals and for the success or failure of them (deCharms, 1976).

DeCharms (1976) links personal causation to motivation. A person who is intrinsically motivated behaves in a manner that produces its own satisfaction; this is an Origin. In contrast, a person who is extrinsically motivated may merely suffer through something just to reach the end. The Origin sees the locus of causality as being within oneself, while the Pawn sees it as external. Any behavior which causes a change and which the individual feels he/she originated helps develop the feeling of accomplishment and personal causation (deCharms), and thereby assists the growth of intrinsic motivation.

Using these concepts deCharms (1976) developed a training program for inner-city elementary school teachers. Then the trained teachers devised curricula to train their students. Results of a three-year study revealed the trained students could identify their own Origin and Pawn behaviors, could distinguish between controllable and uncontrollable results, could set realistic personal goals, and reached increased academic achievement (deCharms).

Another researcher in motivation, Carol Dweck (1996), proposed a motivational analysis to help with “understanding people’s predominant goals and their strategies for pursuing those goals” (348). She defines “goal” as being the “*purpose* for which an

individual is pursuing a behavior” (Dweck, 350). A motivational analysis helps us to name and describe human behavior and how it works. In addition it helps us to discover something about aggression, self-defeating behavior, and/or behavior patterns. Not only is the behavior identified, but also so are the underlying psychological processes which determine what the goals are and how are they being pursued. Dweck proposes that since “goals provide the when, why, and how of behavior, we would look to them to understand variations in behavior” (349). She categorizes different classes of goals such as achievement/competence goals (including performance goals and learning goals), interpersonal or relationship goals (including approval seeking, developmental, and control of others), and hedonic goals (including pleasure/pain and reward/punishment). One usually does not pursue only one goal at a time, but more likely pursues more than one and sometimes even many at once successfully by virtue of effective adaptive behavior (Dweck).

Motivation, as mentioned previously, is often discussed in two major categories, extrinsic and intrinsic. Deci and Ryan identify intrinsic motivation as rooted in the basic needs of an individual” to be competent and self-determining” (1985, 5) and to the “emotions of interest and enjoyment” (39). These basic human needs “motivate an ongoing interaction with the environment of seeking and conquering challenges that are optimal for one’s capacities” (39). Deci and Ryan discount theories that base motivation on drive using reinforcement and anxiety reduction or requiring optimal arousal. They observe that although individuals sometimes act to reduce uncertainty and dissonance, they often also deliberately engage in behavior that is meant to increase uncertainty and/or dissonance (39). Intrinsic motivation is perceived ultimately to be more enjoyable

and more rewarding with the result of more genuine learning taking place than with extrinsic motivation (Stipek, 1988).

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Characteristics

Deci and Ryan (1991) proposed that goals develop from basic needs such as self-esteem, autonomy, belonging/relatedness, competence, and control/safety/security. Dweck (1996) states that although people share many of the same categories of goals, different individuals put different emphases on them and use different methods to accomplish them. Among the major variables of goals, which Dweck identifies, are self-esteem and self-efficacy. She discovered that when an individual is pursuing learning

goals or seeking to increase one's level of competence, the level of self-confidence in present ability is unimportant. At this point an individual may seek out challenges to master whether or not he/she currently feels confidence in that area. However, when one is pursuing performance goals that validate his/her competence, the perceived level of ability is important (Dweck). Therefore, a student's self-confidence level is not as important when attempting to learn new tasks or expanding one's own skills as it is when that same student is attempting to perform at a certain level or prove ability such as that demanded by school tests.

One study (Heyman & Dweck, 1998) assessed children's thinking and beliefs about the stability of traits both in themselves and in their teachers. These were examined in regard to the school setting and in the "sociomoral domain" (Heyman & Dweck). The observation is made that a major focus in schools is placed on measuring one's abilities and those of other students rather than focusing on procedures which might advance learning for its own sake, rather than for passing tests. Consequently, many individuals are more likely to question their own abilities and to give up when tasks become difficult for them (Dweck & Leggett, 1988).

A closely related concept is viewing the personality as a fixed entity that appears to be enhanced by a growing emphasis on personality evaluation (Dweck, Hong, & Chiu, 1993). Therefore, a major emphasis in social settings is to evaluate oneself and other people along fixed personality traits rather than evaluating the context and process that prescribe specific behaviors (Erdley & Dweck, 1993). Heyman and Dweck (1998) determined that seven- and eight-year-old children who adhere to a belief in fixed personality traits were more likely than those who did not to focus on performance ability

rather than on the process of learning when they explained their school outcomes. These children who endorsed stable or fixed personality traits “emphasized the link between outcomes and ability, and deemphasized [sic] processes that foster learning” (Heyman & Dweck, 1998, 400). They speculate that these children closely connect what a person does with what kind of person he/she is, both for themselves and for others. These children who support stable traits relate it to the types of input they use to make sense out of home and school situations and to help them in determining what behaviors to pursue. In the children who were studied “a belief in the long-term stability of traits was associated with a tendency to readily judge one’s own traits and the traits of others, even on the basis of very limited evidence, and with a heightened concern with outcomes and behaviors that can be used to judge traits” (Heyman & Dweck, 401).

Many schools rely on teacher identification and teacher report instruments to identify their students who may have ADHD. These teacher report instruments include the Attention Deficit Disorders Evaluation Scale (ADDES), the AD/HD Comprehensive Teacher’s Rating Scale (ACTeRS), the Behavior Assessment System for Children (BASC), and the Achenbach Teacher’s Report Form (TRF) among others. Teachers have been evaluated to assess their ability to identify students who have the characteristics of ADHD. Research has indicated that teachers’ knowledge about ADHD is insufficient for this (Pelham, Evans, Gnagy & Greenslade, 1992). Problems have been reported with interobserver agreement in using these teacher report instruments (Reid & Maag, 1994). In fact, when comparisons were made, fewer than half of those studied reported interobserver agreement (Barkley, 1990).

It has been suggested that the discrepancy between teacher observers of student behavior actually relates to the “goodness-of-fit” dilemma between teacher and student. Perhaps these behavior ratings would be better understood if viewed as “an index of *this* child’s *interactions* with *this* teacher in *this* classroom environment” (Greene, 1995, 81-93). Little research attention has been given to this lack of interobserver agreement, but it has been suggested as an important area to explore (Greene). The “possible variability in teachers’ tolerances, perceptions, and responses also suggests that comprehensive and accurate diagnostic processes should include assessment not only of the child but also of the teacher” (Greene, 1996, 214).

Another recent study demonstrated that a teacher’s beliefs about his or her ability to accomplish intended goals can predict which strategies will be preferred in developing his or her own classroom management (Emmer & Hickman, 1991). “Self-efficacy” as a psychological concept was presented first by Bandura (1977, 1982). It is seen as an important link between what one knows and what one does (Emmer & Hickman).

The Classroom Environment

The NASP publication, Interventions for Achievement and Behavior Problems, devoted a chapter to choosing and using classroom interventions in which the acknowledgement is stated that a major task is identifying interventions which teachers will find acceptable and will then use (Elliott, Witt, & Kratochwill, 1991). One of the ten prominent reasons for failure of classroom management programs is that a specific program did not fit in with the style of the teacher attempting to administer it (Attention

Deficit Hyperactivity Disorder: Diagnosis and Management, Module 4, 1993, H-4-7).

This involves the simple logic that no matter how good an intervention may be in theory or in a research study, it will not help students unless teachers use it. Barkley (1990) acknowledged that “the actual target of intervention is the teacher’s knowledge of and attitude toward the disorder of ADHD. For we have found that where teachers have a poor grasp of the nature, course, outcome, and causes of this disorder and misperceptions about appropriate therapies, attempting to establish behavior management programs within that classroom will have little impact” (Barkley, 501). However, the specific steps given on how to accomplish this are quite limited. Barkley suggested that teachers be educated in much the same way that parents are, but he gives considerably more space to the parents (397-461). This observation also gives credence to the need for further research in this area as this current study proposes.

Supporting Barkley’s (1990) comments about teachers is a recent study demonstrating a strong relationship between the way a teacher behaves with students and the participation of the students in the classroom activities. The extent to which the students felt the teacher was involved with them through caring, understanding, trustworthiness, and the use of time, effort, and supplies related directly to how well the students felt their needs were being met for “relatedness, ... competence, and self-determination” (Skinner & Belmont, 1993, 577). For these school age children the “teachers’ involvement with children seems to be the most salient feature of student-teacher interactions” (Skinner & Belmont, 578).

Traditional classroom management techniques for teachers for many years have included basic behavioral management systems (Becker, 1987; Hardman, Drew, & Egan,

1996). In the past these methods were often referred to as “behavior modification” techniques (Hammill & Bartel, 1986, 259-270). For years some of the main suggestions for assisting students who exhibit ADHD characteristics have focused on various behavioral management or contingency management interventions and techniques (DuPaul, Tilly, & Putnam, 1991). These have been the most commonly used interventions for ADHD in the classroom (Pffiffer & Barkley, 1990). Barkley (1990), considered by many to be one of the leading authorities on ADHD, devoted nearly thirty pages to describing behavioral interventions to be administered by the teacher and used in the classroom. The NICHY Briefing Paper on Attention-Deficit/Hyperactivity Disorder (Fowler, 1994) lists behavioral intervention guidelines to be used in the classroom as the major means for assisting these students. The Bonus Report of Inclusive Education Programs (1996) described a behavior management program and cited effective examples.

The primary objective of a behavior management program is to improve the frequency of preferred behavior while diminishing the frequency and severity of unwanted behaviors (Fowler, 1994). The most frequently used teacher intervention with ADHD students has been behavior management in the classroom (Pffiffer & Barkley, 1990). Typically this consists of a combination of positive consequences and negative consequences in response to the student’s behavior. Desired behaviors are rewarded with positive consequences; undesirable behaviors are met with negative consequences. These behavior management programs usually include among the positive consequences the intervention of positive teacher attention, such as verbal praise, and a token reward system of earning points or tokens toward a more tangible reward (Pffiffer & Barkley).

Another component of this technique often includes some type of negative consequences or punishment. These may vary from ignoring slight misbehavior, to reprimands, time-out, loss of privileges, or suspension from school for gross misbehavior. (Piffner & Barkley).

Generally, the positive procedures will be used in a classroom many times more frequently than will the negatives. However, “mild punishments like response cost and time-out are often crucial additions” to behavior management systems for school-age children with ADHD. (Hinshaw, 1994, 114.) Such contingency management programs have demonstrated improvements in academic performance and reduction of undesirable behavior in ADHD students that are clinically significant (Pelham, Evans, Gnagy, & Greenslade, 1992). However, drawbacks are also present because of the elaborate and consistent nature of the program. Unfortunately, the improvements usually only last as long as the program is continued. Little generalization or continued improved behavior is seen beyond the classroom where the behavior management plan is in use (Hinshaw).

In the publication of the National Association of School Psychologists (NASP), Best Practices-III (1995), interventions that are suggested in addition to behavioral management methods include cognitive-behavioral interventions. In fact, entire books have been devoted to this approach of managing ADHD (Braswell, Bloomquist, & Pederson, 1991). However, the most recent studies show that contingency management techniques and academic interventions in the classroom were more effective in improving the behavior of ADHD children in elementary school than were the cognitive-behavioral methods (DuPaul & Eckert, 1997). Although this indicated a statistically significant improvement in academic performance using behavioral management, the “effect sizes

are almost uniformly in the low range” (DuPaul & Eckert, 22). This is particularly important when it is realized that low academic achievement is one of the greatest risks for ADHD students (DuPaul & Eckert). These findings give added impetus to this current study to continue the search for additional helps that might be made available to teachers for assisting ADHD students, such as through the components of the classroom environment.

The orientation or teaching style of each teacher-participant in this study was determined by using The “Problems in Schools” Questionnaire: A Measure of “Adults’ Orientations Toward Control Versus Autonomy with Children” (Appendix B). This is an unpublished scale developed by Dr. Edward L. Deci of the University of Rochester in New York and used with his permission. This scale has been used in several other research studies, which have been published (Deci, Hodges, Pierson, & Tomassone, 1992; Deci, Nezlek, & Sheinman, 1981; Deci, Schwartz, Sheinman, & Ryan, 1981; Green & Foster, 1986). The Deci scale consists of eight vignettes of children’s behaviors followed by four behavioral options of possible teacher responses. Results indicate that a teacher’s orientation in regard to children is either controlling or encouraging of autonomy.

The instruments used in this study to assess the classroom environment include parts of The Instructional Environment System-II (TIES-II) (Appendices E & F). With the TIES-II a teacher assesses his/her own classroom environment as he/she structures it in regard to planning instruction, managing instruction, instructional presentation, and monitoring and evaluating instruction. Each item is ranked regarding its presence (or

absence) in the classroom and its importance in the classroom. (Ysseldyke & Christensen, 1993-96).

The fourth instrument used here to assess teachers was an original Teacher Questionnaire involving training, experience and feelings of competence in teaching students with ADHD (Appendix G). In this questionnaire teachers were asked to indicate how knowledgeable they are regarding, how effective they perceive, and how willing they would be to implement eight various interventions in their classrooms for students with ADHD. Another important variable with teachers is the amount and kind of teaching experience they have had. The teacher training they have received is also to be considered, particularly specialized training such as that directed at working with students who have ADHD. This information was obtained with the Teacher Personal Data sheet (Appendix H).

The task of the teacher at this point becomes how to incorporate his/her knowledge and skill to help the student with motivation, how to create motivation, how to help a student develop intrinsic motivation, and how use extrinsic motivation to help the student evolve intrinsic motivation. The teacher needs to know something about his/her own personal characteristics and attitudes and how they affect the interactions with students. The teacher must also determine what interventions can and will be used in his/her classroom. Serious thinking and planning are required to decide which interventions will be acceptable, effective, and can be used with integrity by each individual teacher. To determine this “requires knowledge of and respect for many variables associated with the teachers, such as skill, knowledge, time, and the availability

of resources” (Elliott, Witt, & Kratochwill, 1991). In this study such information was pursued to propose assistance to teachers in their working with students with ADHD.

CHAPTER III

METHODOLOGY

Participants

The participants in this study were eighty-five teachers in public elementary schools who are currently employed full-time as teachers of children in grades one through six. The school districts in which they teach range in size from fewer than 200 to more than 3,000 students and are located in small towns and rural areas in Oklahoma.

Before any contact was made with teachers, the project was discussed with each school principal and his/her approval was obtained. In most schools the study was then presented verbally by the researcher to the teachers in their schools in formal staff meetings or in informal settings with one to several teachers. Teachers were given the questionnaire packets if they indicated possible participation. In a few schools the principals chose to make the presentation and distribute the packets themselves. In two schools the principals requested leaving the packets in the teachers' school mailboxes with no verbal presentation. The participation of all teachers was also solicited in introductory letters in their packets (Appendix A). Their participation was voluntary, and neither inducement nor remuneration was offered. The teacher-participants were asked to complete four paper and pencil instruments within the week following their receiving

them and return them to a box labeled “Research” in the school office or teachers’ lounge.

Instruments

The “Problems in Schools” Questionnaire A Measure of “Adults’ Orientations Toward Control Versus Autonomy with Children”

This measure was developed from cognitive evaluation theory ideas presented in papers developed from 1975 through 1981 (Deci, 1975; Deci & Ryan, 1980; Deci, Nezlek, & Sheinman, 1981). This unpublished instrument is available from and was used with the permission of the author, Dr. Edward L. Deci, The University of Rochester, New York (Appendix B). The purpose of this questionnaire is to assess the orientations of adults “toward controlling versus supporting autonomy in children. Although it encompasses the orientations of any adults, it was designed particularly for assessing teachers” (Deci, 1981,1). This instrument is composed of eight vignettes, each of which describes a situation of interaction between one or more children and one or more adults.

Each vignette is followed by four different intervention options for an adult (teacher) to choose between for dealing with the situation. Each potential intervention is followed by a seven-point, Likert-type scale to be rated from one as “very inappropriate” to seven as “very appropriate.” There are no right or wrong answers for this questionnaire; instead, scoring was done by following a key in determining whether a teacher’s orientation to students is “highly controlling,” “moderately controlling,”

“moderately autonomous,” or “highly autonomous.” These scores were then collapsed across groups to provide two summary groups, controlling and autonomous.

The limitations of this instrument are recognized, but it is used because it examines relevant behaviors and characteristics of teachers in relation to students that no other existing instrument does. Although this instrument is not published, its internal consistency, reliability, and external validity are affirmed by its authors (Deci, Schwartz, Sheinman, & Ryan, 1981). In their analysis for internal consistency Deci, Schwartz, Sheinman and Ryan found that correlations ranged from .40 to .80. Split half studies were calculated on the four subscales. Using Cronbach’s alpha for standardized scores the values ranged from .63 to .80. For nonstandardized scores they ranged from .63 to .76 which they accepted as showing good internal consistency. Test-retest study produced reliability coefficients ranging from .77 to .82 on the subscales and a coefficient of .70 for the scale as a whole. An external validity study developed a correlation of .35, which was significant at the .05 level (Deci, Schwartz, Sheinman & Ryan). Additionally, this questionnaire has been used in several other studies that have been published (Deci, Hodges, Pierson & Tomassone, 1992; Deci, Nezlek, & Sheinman, 1981; Deci, Schwartz, Sheinman, & Ryan; Green & Foster, 1986.).

The Instructional Environment System – II (TIES-II):

A System to Identify a Student’s Instructional Needs

The purpose of the TIES-II is to help “design an instructional intervention to address teachers’ concerns about an individual student” (Ysseldyke & Christenson, 1993-

1996, 12). It is intended to assess the instructional needs of a student in the learning environment, not to assess the teacher or the student.

The TIES-II advocates seventeen components that are important in achieving success in school. Five of these are related to home support, and twelve are school related. These twelve instructional environment components which are seen as being correlates of academic achievement are: “Instructional Match,” “Teacher Expectations,” “Classroom Environment,” “Instructional Presentation,” “Cognitive Emphasis,” “Motivational Strategies,” “Relevant Practice,” “Informed Feedback,” “Academic Engaged Time,” “Adaptive Instruction,” “Progress Evaluation,” and “Student Understanding.” The research conducted that resulted in these components is noted with explanations, references, and recommended readings in the TIES-II manual (Ysseldyke & Christenson, 1993-1996, 7-13).

Examination of the psychometric properties of the TIES-II revealed in one study that all interrater reliabilities exceeded .80, and all except two were greater than .90. In another study the interrater agreement was 47.8% for exact ratings and 76.2% for grouped ratings. In one validity study 94 raters and 391 students from both regular and special education classes were used. Correlations for content validity between TIES-II ratings and achievement subtest scores were moderate for regular education students. The twelve TIES-II components were derived from a careful review of the literature on critical aspects of the instructional environment.

This current research study used two of the four TIES-II protocols, the Instructional Environment Form (Appendix E) and an adaptation of the Instructional Modifications checklist (Appendix F) from the Instructional Needs Checklist. These

instruments are based on these same twelve TIES-II components which they have determined as being important for a productive instructional environment.

Instructional Environment Form

In the Instructional Environment Form (Appendix E) the teacher surveyed his/her own classroom (instructional environment) using these twelve component areas as points to evaluate in relation to establishing the appropriate educational environment for one specific student. For this current research project, teachers were instructed to think of one student with ADHD whom they are teaching now or have taught previously as they complete the forms, but not to identify the student. All teacher-participants were given a reference page listing the generally agreed upon characteristics of ADHD, an abbreviated version of the list in the DSM-IV (1994).

The Instructional Environment Form format requires that for each of the twelve components, the participant determined its Presence (whether or not it is present in his/her classroom) and its Importance (the degree of importance he/she feels it has in the educational environment for that particular student with ADHD). In this form each component is outlined with explanations of points for the teacher to consider. For each component there are five choices of response: "Strongly Agree," "Agree," "Disagree," "Strongly Disagree," and "Don't Know." Each teacher was to choose one of the five responses for Presence and one for Importance for each component.

Instructional Needs Checklist: “Instructional Modifications”

In the TIES-II Instructional Needs Checklist there are six “Steps” which are also based on the twelve components. One of those “Steps” is “Instructional Modifications” which is in the form of a checklist of “feasible instructional modifications” that a teacher would be willing to use, or already uses, in his/her classroom. For this current study this checklist was adapted for use as a separate instrument called Instructional Modifications (Appendix F). The TIES-II checklist items were used with the addition of a five-point, Likert-type scale. Written instructions asked each participant to rank each item with values of one as low or least and five as high or most. Again each teacher-participant was instructed to think about one specific student with ADHD whom he/she had taught or was currently teaching as he/she responded to the items. The responses should form a list of instructional modifications that he/she feels are feasible in his/her classroom for that specific student. Because the TIES-II is not a norm-referenced test, raw score variance was examined.

Limitations of this instrument are recognized as it is not standardized nor norm-referenced. However, it examines the classroom environment for a specific teacher with an individual child in a non-threatening, non-judgmental, and therefore, hopefully a more productive, manner. No other such instruments exist which assess this composite. As its authors state, the “TIES-II fills a void in the assessment field by providing educators with a structure and systematic procedures for gathering relevant information for intervention planning” (Ysseldyke & Christenson, 1993-1996, 12).

Teacher Questionnaire

The fourth instrument used in this study was an original Teacher Questionnaire developed by the researcher regarding eight various interventions which may be used by teachers for students with ADHD (Appendix G). These interventions were selected from four categories: external management (behavioral), self-management (cognitive-behavioral), phenomenological (humanistic/affective), and physical/medical. This instrument is intended to assess teachers' perceived familiarity with interventions commonly recommended for use with students with ADHD. It also inquired about the teachers' perceptions of each intervention's effectiveness and the likelihood of their implementing it in their classrooms. Again, the teacher could refer to the summary reference page on ADHD characteristics distributed earlier (DSM-IV, 1994). The teacher-participants were asked to respond to questions on a one-to-five, Likert-type scale, with one representing a low response and five representing a high response.

A demographic section was also included in which the teacher-participants were asked to indicate their age, gender, race, academic degree, years of teaching experience, and specific ADHD training (Appendix H). Where it is conceivable that information possibly could be identifying, such as for age and years of teaching experience, the responses were requested by categories rather than by specifics. All of this information was given anonymously and maintained confidentially. All participants were given assurances of that, and were instructed to maintain confidentiality of the test forms that they completed.

Procedures

Approval by the Institutional Review Board of Oklahoma State University was sought and obtained prior to collecting data. Permission to conduct the study with their teachers was obtained in advance from each school's principal. Teachers were asked both orally and in writing to volunteer for participation. They were given letters of explanation and assurance of anonymity. Options to withdraw from participation at any time were extended. For those who are interested, a summary of research results will be provided to the schools of the participants following the conclusion of the study.

Each individual participating teacher was asked to complete the 'Problems in Schools' Questionnaire: A Measure of "Adults' Orientation Toward Control Versus Autonomy with Children" (Deci, 1981), the Instructional Environment Form and the adapted portion of the Instructional Needs Checklist from the TIES-II (Ysseldyke & Christenson, 1993-1996), and the original Teacher Questionnaire. Completing these four forms took a total of approximately 30 to 45 minutes for each participant.

Design/Data Analysis

There were three independent variables in this study. The design was a three-way analysis of variance. The three independent variables were as follows: 1.) The first independent variable was the attitude of the teachers in the classroom that indicated that they are more controlling or more autonomy-enhancing with students; 2.) The second independent variable was the teachers' specific training for work with students with ADHD; 3.) The third independent variable was the length of teaching experience.

The effects of these variables on two types of dependent variables were examined. The first dependent variable was the teacher's instructional environment as measured by the TIES-II. The second dependent variable was the original questionnaire designed to measure the teacher's familiarity with, perceived effectiveness of, and perceived competence in implementing eight specific ADHD interventions. A .05 level of significance was used throughout the study.

CHAPTER IV

RESULTS

The results of the research techniques utilized in this study are presented in Chapter IV. The purpose of this study was to examine a group of public elementary school teachers with specific concern about their work with students who have ADHD. This study was to explore issues of possible differences between teachers who are more controlling of students and those who are more autonomy-enhancing. It was also to examine the possibility of differences in teachers according to their years of teaching experience and their specific training in working with students who have ADHD. These areas were to be examined in relation to the instructional environment (classroom) provided by those teachers. The results were to be generated by employing a three-way analysis of variance.

The analyses of variance used and the means tables were computer-generated. In order to comply with required space limitations of the computer programs, abbreviated labels were developed for the variables. These shortened names appear on the printed analyses of variance results and the tables presented in the Appendices. For the independent variable of controlling teachers versus autonomy teachers, the term “conauto” was used. The controlling teachers are represented as “conauto 1” and the autonomous

teachers as “conauto 2.” In regard to teaching experience, the label “exper” was employed with “1” representing the novice teachers who had two or fewer years of experience and “3” representing teachers with three or more years of experience. In regard to the specific training for working with students with ADHD the label “notrain” was used. Teachers with one hour or less of training were designated “notrain 1.” Those teachers with half a day or more of training for working with students with ADHD were identified with the label of “notrain 2.”

The following six hypotheses were proposed for this study:

Hypothesis 1- There is a difference in the instructional environment of teachers who are more autonomy-encouraging with their students from that of teachers who are more controlling. The instrument used to determine control or autonomy was the “Problems In Schools” Questionnaire. The instructional environment was measured by using the Instructional Environment Form of The Instructional Environment System-II (TIES-II), an Instructional Modifications form adapted from the TIES-II, and an original Teacher Questionnaire regarding classroom interventions.

The “Problems in Schools” Questionnaire was scored according to a key which revealed that a larger proportion of these teacher-participants were determined to be autonomy-enhancing rather than controlling. Of the 85 participating teachers, 81 were autonomy-enhancing (who are referred to here as “autonomy” for brevity) and 4 were controlling (Table I).

Results of the analyses of variance revealed a significant difference between the control and autonomy teachers in several of the Instructional Environment items (Tables I

& IV; Appendices J & K). Each of the twelve Instructional Environment components was accompanied by two question items, A and B. The A questions concerned the presence or absence of that component in the teachers' instructional environments. The B questions concerned the importance teachers felt for that item to be in the instructional environment for a student with ADHD. In the analysis of variance of the total of all the teachers' responses to the A questions (present) on the Instructional Environment (Appendix J), a significant main effect was revealed, with controlling teachers being more likely than autonomy teachers to report these Instructional Environment components to be present in their classrooms. The analysis of variance of the total of the teachers' responses to the B questions (importance) of these components for the education of a child with ADHD in their classrooms (Appendix K) revealed that controlling teachers overall rated these twelve Instructional Environment components as being more important than did the autonomy teachers.

Results of the analyses of variance of the teachers' answers showed a significant difference in several of the individual components of the Instructional Environment (Appendices L, M, N, O, P, & Q). All of these dealt with the presence or absence of the components; no significant differences were discovered in relation to the importance of these components in the education of a student with ADHD. In regard to the Instructional Match between teacher and student, a significant main effect was disclosed (Appendix L). The controlling teachers were shown to report the presence of Motivational Strategies in their instructional environments significantly more than did the autonomy teachers (Appendix M). For Academic Engaged Time (Appendix N) and Adaptive Instruction

(Appendix O) similar results were developed, revealing that the controlling teachers reported these components as being present in their environments significantly more often than did the autonomy teachers. Two more main effects were brought to light in the analyses of teachers' responses to the component items of Progress Evaluation (Appendix P) and Student Understanding (Appendix Q). This same analysis of Progress Evaluation (Appendix P) also showed that controlling teachers reported the presence of Progress Evaluation in their own instructional environments significantly more often than did the autonomy teachers.

The analysis of variance of the total teachers' responses to the adapted TIES-II Instructional Modifications (Table V) disclosed a significant main effect (Appendix R). Additionally, it showed that controlling teachers overall deemed these modifications feasible significantly more often than did the autonomy teachers. Through the separate analyses of variance of the fourteen possible modifications only one disclosed significant difference. A main effect was shown for the Selection of Materials component (Appendix S). That same analysis indicated that the difference between the control and the autonomy teachers approached significance in their views of Selection of Materials as a feasible instructional modification with the controlling teachers' responses having the greater mean (Table V).

The third dependent variable, the Teacher Questionnaire, did not show significance in the analysis of variance of its total of teachers' responses regarding the eight classroom interventions (Table VI). For the intervention of Cooperative Learning, analysis revealed that controlling teachers reported feeling knowledgeable about it significantly more than

did autonomy teachers (Appendix T). The analyses of the Peer Tutoring intervention disclosed significance in two areas. For the question of effectiveness, or belief that it would work, a main effect was revealed and the autonomy teachers answered positively at a significantly greater rate than did the controlling teachers (Appendix U; Table VI). For the question of the teachers' feelings of competence or likelihood of using Peer Tutoring (Appendix V) a significant interaction was shown between control/autonomy teachers and trained/not trained teachers with autonomy teachers and trained teachers having the greater means (Tables I & III).

Hypothesis 2 - There is a difference in the self-perception of competence in dealing with students with ADHD between teachers who are more autonomy-promoting and teachers who are more controlling. This feeling of competence was indicated by the third question accompanying each of the eight interventions in the Teacher Questionnaire. The analyses of variance disclosed significance on this question for only one intervention, Peer Tutoring (Appendix V). A significant interaction was shown with control/autonomy and training/no training with autonomy and no training having the greater means (Tables I & III).

Hypothesis 3 - There is a difference in the classroom environments of teachers who have received specific training in working with students with ADHD from the classroom environments of those teachers who have not received such training. As a part of the personal data requested of the teachers, one question asked to indicate how much training they had received in this area from none to one week. Those who reported none or one hour training were grouped as "not trained," while those with half a day or more

were grouped as “trained.” In the Instructional Environment question on the presence of Relevant Practice, the analysis of variance pointed to trained teachers as approaching a significant difference over those who were not trained (Table IV). For the component of Student Understanding the analysis showed that trained teachers reported this to be present in their educational environment at a significantly greater rate than did untrained teachers (Appendix Q).

In the TIES-II Instructional Environment Form the question on the presence of the Relevant Practice component, the analysis of variance pointed to trained teachers as approaching a significant difference over those who were not trained (Table IV). For the TIES-II component of Student Understanding (Appendix Q), the analysis showed that teachers trained to work with students with ADHD reported this component to be present in their instructional environment at a significantly greater rate than did untrained teachers. No significant differences were revealed by the analyses of the responses on the Instructional Modifications items regarding the issue of ADHD training (Table III).

In the Teacher Questionnaire the analysis of variance performed on responses to the question regarding knowledge of Modifying the Task revealed that trained teachers felt significantly more knowledgeable than did the untrained teachers (Appendix W). The analysis of responses to the question on Self-Monitoring showed that teachers who were not trained had a significantly more positive belief in its effectiveness than did trained teachers (Appendix X).

Hypothesis 4 - There is a difference in self-perception of competence between those teachers who have received specific training in working with students with ADHD and those teachers who have not. Analyses of variance divulged significance on this

question on only one of the eight interventions. For Peer-Tutoring a significant interaction was shown for control/autonomy and training/no training (Appendix V). Autonomy and no training had greater means than controlling and trained (Table VI).

The specific question regarding generally how well prepared the teacher participants felt in teaching students with ADHD was asked separately at the end of the Teacher Questionnaire. Through the analysis of variance of the teachers' responses to this question, a main effect was brought to light with trained teachers more likely than untrained teachers to feel prepared to teach these students with ADHD (Appendix Y).

Hypothesis 5 - The instructional environments of experienced teachers are different for students with ADHD than are those of novice teachers. No significant differences were discovered between novice and experienced teachers (Tables II & IV).

Hypothesis 6 - There is a difference in self-perception of competence in working with students with ADHD between novice and experienced teachers. No significant differences were disclosed between novice and experienced teachers (Tables II & VI).

In summary, of the six proposed hypotheses, the statistical analyses revealed that four had some significant differences and two did not. A number of significant differences related to Hypothesis 1 were shown in connection with control/autonomy teachers and the presence of certain TIES-II components in their instructional environments. All teachers appeared to be in agreement that all twelve of these TIES-II components are important in the education of students with ADHD, but differences were shown in the presence of these components. Three main effects were revealed in the presence of the components of Instructional Match (Appendix L), Progress Evaluation (Appendix P), and Student Understanding (Appendix Q). Control teachers responses were significantly greater than

those of autonomy teachers in the presence of the components of Motivational Strategies (Appendix M), Academic Engaged Time (Appendix N), Adaptive Instruction (Appendix O), and Progress Evaluation (Appendix P). Teachers with special ADHD training rated the presence of the component of Student Understanding significantly higher than did teachers without ADHD training (Appendix Q).

The adapted Instructional Modifications questions provided 15 items for assessment. Significance was determined in two areas, the total summation of the item responses and the modification of selection of materials. The composite score revealed a main effect and showed controlling teachers scored the feasibility of these modifications significantly higher than did autonomy teachers. The analysis of Instructional Modification of Selection of Materials disclosed a main effect, and approached significance for controlling teachers. In addition, the total responses showed that control teachers rated the feasibility of these modifications significantly higher than did the autonomy teachers.

The original Teacher Questionnaire presented 25 items for analyses that determined significance in eight of them. Teachers with ADHD training perceived that they were knowledgeable about modifying student tasks significantly more often than teachers who did not have ADHD training (Table III; Appendix W). Significant results were also revealed with the interventions of Self-Monitoring (knowledge and effectiveness) (Appendix X), Cooperative Learning (knowledge) (Appendix T), and peer tutoring (effectiveness and use) (Appendix U). Interactions were disclosed with knowledge of self-monitoring (Appendix X) and the use of peer tutoring (Appendix U). For the separate question of training specifically for working with students with ADHD,

teachers with training perceived themselves as well prepared for working with these students significantly more often than did the teachers without such training (Table III; Appendix Y).

CHAPTER V

DISCUSSION

All teachers hope to provide a good educational environment for their students. Public school teachers today either are teaching at least one student with ADHD now or soon will be. As mentioned previously estimates are that there is an average of at least one of these students for every classroom (Greene, 1996) with some estimates going as high as twenty or thirty percent of the elementary-age population having ADHD. Therefore, this condition is undoubtedly a concern for all teachers in elementary schools.

Many previous studies such as Barkley (1996,1997), Faraone et al (1993, 1996), Gadow et al (1992), and Umbreit (1995), have examined the characteristics of students with ADHD. Others such as DuPaul and Eckert (1997) have evaluated the appropriate classroom management for them. However, those who teach students with ADHD for the most part have been overlooked in research studies.

The purpose of this investigation was to explore the characteristics of teachers of students with ADHD in hope of discovering some additional helps in providing adequate and appropriate education for these students. This was to be done by using volunteer teacher participants to complete questionnaires which would reveal whether they were controlling or autonomous teachers, whether they were novice or experienced teachers, and whether or not they had received any specific training to teach students with ADHD.

The "Problems in Schools" Questionnaire (Appendix B) was used to determine if each teacher-participant was controlling or autonomy-enhancing with students.

Information on their experience and training was collected from the Teacher Personal Data sheet (Appendix H). The other three instruments used assessed the instructional environment that the teacher created and provided. These three instruments were the TIES-II Instructional Environment Form, an adapted version of the Instructional Modifications checklist of the TIES-II, and an original Teacher Questionnaire.

Participants in this study were 85 elementary school teachers whose teaching experience ranged from less than two years to more than thirty years. They were employed in thirty elementary schools in districts ranging in size from fewer than 200 to more than 3,000 students.

The teachers' responses on The "Problems in Schools" Questionnaire were used in determining whether the participants were controlling or autonomy teachers. The results disclosed that a disproportionate number of the teachers turned out to be autonomy teachers. Specifically, out of the 85 teachers who completed and returned the questionnaires, 4 were determined to be controlling and 81 were autonomy teachers. This seems to be an unusual imbalance, particularly considering the numbers and varieties of teachers and schools solicited for participation.

Earlier studies, such as Deci, Schwartz, Sheinman, and Ryan (1981) found a more balanced distribution of controlling and autonomy teachers. In that study controlling and autonomy teachers appeared to be fairly evenly distributed, and they reported using a wide variety of teachers as was done in this current study. Deci, Schwartz, Sheinman and Ryan did not give any indication of difficulty or special

methods used in obtaining a balance of control and autonomous teachers. However, the original studies of Dr. Deci from which the questionnaire was developed were executed nearly twenty years ago. In the intervening time there may have been a genuine trend away from the controlling teacher concept.

The much larger number of autonomy teachers found in this current study may be a positive sign. Perhaps the teacher-training institutions have in recent years been successful in instilling the autonomy-enhancing ideas in a large portion of their graduates. The autonomy-enhancing approach to students may now be considered more “politically correct,” thus causing teachers to be reluctant to admit adherence to the older and more strict, controlling approach.

Future research might attempt to ferret out more controlling teachers, and attempt to assess the same concepts that were pursued here with more equal numbers. It may be that since participation was completely voluntary without pressure or promise of reward, taking part appealed more to autonomy teachers. If controlling teachers are by nature controlling, they may not want to admit that any aspect of their instructional environment is not in their control, and this set of questions provided a platform to state that. If they are naturally more controlling of others, perhaps they are also more controlling of themselves, execute better time management, and thus have less time to spend filling out such forms. (Many teachers who did not complete them said they would like to do so, but did not have time for it.) There is the possibility that the unequal numbers in each group may have distorted the statistical results.

For future studies, observations of teachers in their instructional environments might be included. These should be conducted by impartial, unbiased observers, perhaps

pre-service teachers or teachers from another school. The results of their observations in the actual classroom could be compared to the teachers' own assessments to see if there are correlations and/or dissimilarities and in which areas. The TIES-II instruments would be particularly compatible with this format.

No significant differences were discovered in the questions concerning the Importance of the TIES-II Instructional Environment components for student success in education. In other words, most of the teachers agreed that these twelve components were important in establishing an appropriate instructional environment for students with ADHD. This finding was in agreement with the claim of Ysseldyke and Christenson (1993-1996) in publishing the TIES-II.

All of the Instructional Environment components that did show significant differences were in the questions regarding the Presence of the component in the Instructional Environment. Out of the twelve components, six showed a significant difference in the teachers' views of whether or not those components were present in their instructional environments. Of those six, four revealed that controlling teachers indicated those components were present in their instructional environments at a more significant rate than did autonomy teachers.

The components of the TIES-II questionnaires are by their nature geared to assess the instructional environment that the teacher establishes. The TIES-II was produced to assess a particular student's educational needs in a specific classroom context (Ysseldyke & Christenson, 1993-1996). Therefore, the component items are under the control of the individual classroom teacher. The controlling teachers may actually then provide more of those components in their instructional environments. As controlling teachers have a

more controlled, structured classroom, they are more assured of including all of these components in it. However, most of these TIES-II components speak more to extrinsic motivation of students rather than intrinsic motivation. These are areas controlled by the teacher for the most part and do not lend themselves to the option of autonomy or student control. For example the components of instructional match, teacher expectations, classroom environment, instructional presentation, cognitive emphasis, motivational strategies, relevant practice, informed feedback, adaptive instruction, and progress evaluation are all determined by the teacher. That includes 10 of the 12 components in the teacher-controlled list. Of those 10, several of the components may not even be controlled by the individual teacher but be outside the teachers' area of authority.

By contrast all of the items in the Teacher Questionnaire are within the teachers' realm of decision-making. Nearly half of these interventions presented provide the opportunity for helping build intrinsic motivation. Student self-monitoring, cooperative learning, and peer tutoring provide settings in which the student has the possibility to exercise self-control (or not). Barkley's (1997) most recently published theory on ADHD emphasizes the problem of development of self-control as the primary problem for individuals with ADHD. He sees the problems of attention and hyperactivity as secondary, rather than the main concerns as they have been viewed generally up to now.

The items on which autonomy teachers were significantly higher than controlling teachers were in the Teacher Questionnaire. Autonomy teachers may be more willing to allow students to experience the possibility of self-regulation and self-control than are controlling teachers. Although all the TIES-II components may not be present in a particular classroom, more opportunities to develop self-control and intrinsic

motivations may be present there. Perhaps Ysseldyke and Christenson (1993-1996) did not consider items that involved more self-regulation and areas that could be left up to the student. For example, the motivational strategies component is described as containing “effective strategies for heightening student interest and effort” (Instructional Environment Form, 5). Explanation given with the item includes external motivation techniques such as rewards, goal-setting, encouragement to perform, and student accountability. These are more directed toward extrinsic motivation and not particularly conducive to intrinsic motivation.

Perhaps the autonomy teachers, by sharing with the controlling teachers the view of the importance of the TIES-II components, felt those components should be in their instructional environments, but were not present. Possibly they were more keenly aware of the inadequate representation of these components generally in their schools than were the controlling teachers, or were more ready to admit it.

The lack of significant results for the feeling of competence was somewhat disappointing. Deci, Nezlek, and Sheinman (1981) indicated that students feel more competent if they experience success. It seems logical that this probably should also be true for teachers. If neither controlling nor autonomous teachers, as a group, are feeling successful with students with ADHD, then it makes sense that they would not be feeling competent with them, either. Therefore, no significant difference was discovered between controlling and autonomy teachers in their feelings of competence. Maybe control/autonomy is not the factor that makes the difference between success and failure with students with ADHD, but some other factor as yet unexplored. Since teachers are so frequently assessed and evaluated by students, parents, and administrators, many of

them may feel reluctant to indicate that they do not feel competent in any educational matters. The concept of teachers' self-perceived competence might be pursued further with other instruments and/or other techniques.

The results regarding teaching experience were probably to be expected. Teachers were categorized as novice if they had two years or less of teaching, and those with three or more years were considered experienced. Results showed no significant differences between the novice and experienced groups. Perhaps the teacher-training institutions are doing an adequate job in preparing these teachers so that there is little difference on these questions related specifically to experience. The pre-service teachers' exposure to classroom observations, practicums, and student teaching along with entry-year guidance may reduce the distance from novice to experienced. Maybe a significant difference would have been revealed if only first-year or entry-level teachers had been in the novice group. It could be that beginning teachers have beginners' enthusiasm and energy that compensate somewhat for lack of experience. All these aspects could be explored in future investigations.

The significant results regarding the training of teachers in specific work with ADHD students should be of use to schools. Of the Instructional Environment components, the one showing significant results was the student understanding component. It revealed that teachers with ADHD training were significantly more likely to include student understanding in their instructional environments than were untrained teachers. Grolnick and Ryan (1987) claimed that students with better understanding are those with intrinsic motivation. Therefore, perhaps those trained teachers are more able to develop intrinsic motivation within their students than are those untrained teachers.

The results showed that teachers with specific training in working with ADHD students were more likely to try a variety of less traditional student interventions, such as peer tutoring, and thus make education more accessible to these students.

An asset for schools from this study might be the validation of teacher training programs which they provide such as workshops or in-service programs. According to these results, these training sessions should be at least half a day long at a minimum. By making available specific training in working with students with ADHD, the schools may help all their teachers.

Every one of the school administrators who was approached about taking part readily allowed his/her teachers to participate. Many principals and teachers voiced sincere desire to learn of any new techniques, methods, or materials that might be effective and available in order to serve better this segment of their student population. Most of the school administrators and teachers asked that they be supplied with any significant results of this study that might be helpful to them. Some even asked for immediate assistance through relevant articles, teacher handouts, etc. No one claimed to have a consistently effective system for educating students with ADHD, and most appeared to be genuinely perturbed by their lack of effective methods. These casual remarks from a variety of school personnel lend credence to the premise that more information is needed in this area.

The results regarding control/autonomy teachers and their instructional environments were not exactly as expected. The conclusion could be drawn that control teachers are better with students with ADHD than autonomy teachers. Another possibility would be that the numbers of control teachers was too small for a realistic

picture of the issue. However, the preferred conclusion involves the difference in the types of items in the questionnaires. Since the TIES-II items are more teacher-centered they are naturally more under teacher control. In contrast the Teacher Questionnaire items are more amenable to autonomy teaching and can provide more opportunities for the development of intrinsic motivation and self-control in the students. Therefore, in the long run autonomy teachers provide a more positive instructional environment for the students with ADHD than do controlling teachers.

This study reveals needed information regarding appropriate instructional environment for the teaching of students with ADHD. It shows that autonomy teachers were more likely than controlling teachers to provide opportunities for students with ADHD to develop self-control and intrinsic motivation. Additionally, it indicated that teachers with specific training in working with students with ADHD felt more prepared to teach these students than did the teachers without that training. This provides some relevant information for teacher training workshops and classes that today's teachers could benefit from by specific training for working with ADHD students and by training in helping students develop self-control and intrinsic motivation.

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APPENDIX A

INTRODUCTION LETTER TO TEACHERS

Dear Teacher:

Please let me introduce myself. I am a doctoral student in School Psychology at Oklahoma State University.

As a part of my school requirements, I am doing research on teachers of students with ADHD (Attention Deficit/Hyperactivity Disorder). I need about 30 to 45 minutes of your time to fill out some forms for my study. These forms ask questions about how you would handle different situations with children, your classroom, and interventions with students with ADHD. There are also a few questions about you, your training, and experience. None of the questions are personal, and none can be used to identify you.

The purpose of this study is to determine if differences in teachers' attitudes, training, and experience make a difference in how they work with students with ADHD. I believe that the results of this research will help teachers to improve planning for and assistance to these students in their classrooms.

ALL of the information gathered will be kept completely confidential. All data collected will be used and reported only in group form with no individual scores.

If you are interested, the results of the study, which will be reported only by groups, will be sent to your school. (They cannot be sent to you individually since you will not be identified by name.)

You may withdraw from participation at any time if you choose to do so. There will be no negative consequences.

If you agree to participate, please fill out the forms and return them to me or to the box labeled "RESEARCH" in your school office as soon as possible. Thank you in advance for your time and assistance with this project.

Sincerely,

Anne Matlock

APPENDIX B

"PROBLEMS IN SCHOOLS" QUESTIONNAIRE

THE "PROBLEMS IN SCHOOLS" QUESTIONNAIRE

Jim is an average student who has been working at grade level. During the past two weeks he has appeared listless and has not been participating during reading group. The work he does is accurate but he has not been completing assignments. A phone conversation with his mother revealed no useful information. The most appropriate thing for Jim's teacher to do is:

She should impress upon him the importance of finishing his assignments since he needs to learn this material for his own good.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Let him know that he doesn't have to finish all of his work now and see if she can help him work out the cause of the listlessness.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Make him stay after school until that day's assignments are done.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Let him see how he compares with the other children in terms of his assignments and encourage him to catch up with the others.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Donny loses his temper a lot and has a way of agitating other children. He doesn't respond well to what you tell him to do and you're concerned that he won't learn the social skills he needs. The best thing for you to do with him is:

Emphasize how important it is for him to "control himself" in order to succeed in school and in other situations.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Put him in a special class which has the structure and reward contingencies which he needs.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Help him see how other children behave in these various situations and praise him for doing the same.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Realize that Donny is probably not getting the attention he needs and start being more responsive to him.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Your son is one of the better players on his junior soccer team which has been winning most of its games. However, you are concerned because he just told you he failed his unit spelling test and will have to retake it the day after tomorrow. You decide that the best thing to do is:

Ask him to talk about how he plans to handle the situation.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Tell him he probably ought to decide to forego tomorrow's game so he can catch up in spelling.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

See if others are in the same predicament and suggest he do as much preparation as the others.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Make him miss tomorrow's game to study; soccer has been interfering too much with his school work.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

The Rangers spelling group has been having trouble all year. How could Miss Wilson best help the Rangers?

- a. Have regular spelling bees so the Rangers will be motivated to do as well as the other groups.

1.....2.....3.....4.....5.....6.....7		
very inappropriate	moderately appropriate	very appropriate

- b. Make them drill more and give them special privileges for improvements.

1.....2.....3.....4.....5.....6.....7		
very inappropriate	moderately appropriate	very appropriate

- c. Have each child keep a spelling chart and emphasize how important it is to have a good chart.

1.....2.....3.....4.....5.....6.....7		
very inappropriate	moderately appropriate	very appropriate

- d. Help the group devise ways of learning the words together (skits, games, and so on).

1.....2.....3.....4.....5.....6.....7		
very inappropriate	moderately appropriate	very appropriate

For the past few weeks things have been disappearing from the teacher's desk and lunch money has been taken from some of the children's desks. Today, Marvin was seen by the teacher taking a silver dollar paperweight from her desk. The teacher phoned Marvin's mother and spoke to her about this incident. Although the teacher suspects that Marvin has been responsible for the other thefts, she mentioned only the one and assured the mother that she'll keep a close eye on Marvin. The best thing for the mother to do is:

a. Talk to him about the consequences of stealing and what it would mean in relation to the other kids.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

b. Talk to him about it, expressing her confidence in him and attempting to understand why he did it.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

c. Give him a good scolding; stealing is something which cannot be tolerated and he has to learn that.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

d. Emphasize that it was wrong and have him apologize to the teacher and promise not to do it again.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

Your child has been getting average grades, and you'd like to see her improve. A useful approach might be to:

- a. Encourage her to talk about her report card and what it means for her.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

- b. Go over the report card with her; point out where she stands in her class.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

- c. Stress that she should do better, she'll never get into college with grades like these.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

- d. Offer her a dollar for every A and 50 cents for every B on future report cards.

1.....2.....3.....4.....5.....6.....7		
very	moderately	very
inappropriate	appropriate	appropriate

APPENDIX C

ADHD CHARACTERISTICS LETTER

Dear Teacher:

Please think of a student of yours who has ADHD (Attention Deficit/Hyperactivity Disorder). This may be someone who is in your class now or whom you taught in the past. If you are not sure about the diagnosis or have not taught anyone whom you knew had ADHD, please consult the accompanying page of ADHD Characteristics which may help you in choosing a student.

Keep that student in mind as you fill out the following forms. Please do NOT indicate that student's name.

Thank you,

Anne Matlock

APPENDIX D
ADHD CHARACTERISTICS LIST

ADHD CHARACTERISTICS

Here is a list of the characteristics that are generally used to identify a person who has Attention Deficit/Hyperactivity Disorder (ADHD). This individual is described as demonstrating inattention and/or hyperactive/impulsive behavior more frequently and to a greater degree than is typical for someone his/her age and development level. Typically, for a student with ADHD, you would see six or more of the following characteristics of either Inattention or

Hyperactivity/Impulsivity:

Inattention:

- often fails to give close attention to details or makes careless mistakes in schoolwork or other activities
- often has difficulty sustaining attention in tasks or play activities
- often does not seem to listen when spoken to directly
- often does not follow through on instructions and fails to finish schoolwork, chores, or duties (not due to oppositional behavior or failure to understand instructions)
- often has difficulty organizing tasks and activities
- often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- is often easily distracted by extraneous stimuli
- is often forgetful in daily activities

Hyperactivity/Impulsivity:

- often fidgets with hands or feet or squirms in seat
- often leaves seat in classroom or in other situations in which remaining seated is expected
- often runs about or climbs excessively in situations in which it is inappropriate
- often has difficulty playing or engaging in leisure activities quietly
- is often "on the go" or often acts as if "driven by a motor"
- often talks excessively
- often blurts out answers before questions have been completed
- often has difficulty awaiting turn
- often interrupts or intrudes on others (e.g., butts into conversations or games)

(From Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition, 1994)

APPENDIX E
INSTRUCTIONAL ENVIRONMENT QUESTIONS

Step 4.

The *TIES-II* Instructional Environment Form contains statements about 12 components of instructional environments. Some statements will describe the instructional environment of the student, others may not. Indicate your agreement about the extent to which the statements describe the student's instructional environment.

There are two lines to be filled in following each component described. In the first line, decide on the extent to which you believe the component is **clearly present** in the student's instructional environment. In the second line, decide on the extent to which you believe the component is **important or necessary** to improve the student's performance. The response "**Don't Know**" should only be used if one of the other choices cannot be selected. Remember, there are no right or wrong answers.

PLANNING INSTRUCTION FOR THE STUDENT

COMPONENT 1: Instructional Match—The student's needs are assessed accurately, and instruction is matched appropriately to the results of the instructional diagnosis.

Decide this by taking into account whether:

Instructional Diagnosis

- The student's appropriate instructional level has been identified.
- The student's academic and affective strengths and weaknesses and interests have been identified.
- The skills necessary for the student to complete assigned tasks successfully have been identified.

Instructional Prescription

- Instructional goals are matched to the level of skill development of the student.
- Teaching strategies, methods, and materials are matched to the student's interests and level of skill development.
- Assigned tasks are adapted so that the student experiences success and makes continual progress.
- The student completes academically relevant tasks with high rates of success.

INSTRUCTIONAL MATCH	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 2: Teacher Expectations—There are realistic, yet high, expectations for both the amount and accuracy of work to be completed by the student, and these are communicated clearly to the student.

Decide this by taking into account whether:

- The goal of the lesson informs the student about what is to be **learned** (versus what is to be done).
- Expectations are based on the student's current level of performance.

- The student understands the teacher's expectations for work to be completed.
- The student understands how to demonstrate mastery of the instructional goal.
- The student has an opportunity to respond actively.
- The student knows he/she is held accountable for assigned work.

TEACHER EXPECTATIONS	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MANAGING INSTRUCTION FOR THE STUDENT

COMPONENT 3: Classroom Environment—The classroom management techniques used are effective for the student; there is a positive, supportive classroom atmosphere; and time is used productively.

Decide this by taking into account whether:

Classroom Management

- Classroom rules and procedures are clear to the student.
- The rules and procedures are taught to and reinforced for the student throughout the school year.
- Behavioral disruptions that affect the student are handled promptly.
- The student knows the consequences of appropriate and inappropriate behavior.

Productive Time Use

- There are few interruptions in the flow of classroom activities.
- There is an academic, task-oriented focus in the instructional activities.
- There is sufficient time allocated to academic activities (e.g., learning essential skills).
- The student understands noninstructional routines (e.g., bathroom breaks, what to do when finished with work, how to get help).

Class Climate

- The classroom is a pleasant, friendly, happy environment (one in which the student is not obviously uncomfortable).
- Teacher-student interactions are positive for the student.
- There is a supportive, cooperative atmosphere for the student within the classroom.

CLASSROOM ENVIRONMENT	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DELIVERING INSTRUCTION TO THE STUDENT

COMPONENT 4: Instructional Presentation—Instruction is presented in a clear and effective manner; the directions contain sufficient information for the student to understand the kinds of behaviors or skills that are to be demonstrated; and the student's understanding is checked.

Decide this by taking into account whether:

Lesson Development

- The student's attention is focused during lesson presentation.
- Prior skills or lessons are reviewed for the student.
- The lesson is relevant to the student's experience.
- Instructional goals are specified and the student is told why a task is important.
- Sufficient explanation is provided for this student (e.g., demonstration, modeling, or use of several concrete examples).
- The student is involved in teacher-student or student-student interaction about the skills to be learned.
- The student receives sufficient guidance or controlled practice before beginning independent practice.
- Information is structured for the student in a systematic fashion (e.g., advance organizers, review, guided practice, independent practice).
- The lesson moves at a pace that is appropriate to maintain the student's attention.

Clarity of Directions

- Directions and procedures are rehearsed and new concepts are elaborated upon.
- Written or oral directions are given in language that is easy for the student to understand, of appropriate length and number for the student, and repeated.
- Student attention is directed to salient information and relevant attributes of the task.

Checking for Student Understanding

- The student's understanding of what is being taught is regularly monitored.
- There is active monitoring of student performance before independent seatwork and during the first five or ten minutes of seatwork practice activities.
- The student understands how to get assistance when confused.
- Student understanding is checked by examining the student's responses and/or requesting the student to explain his/her response.

INSTRUCTIONAL PRESENTATION	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 5: Cognitive Emphasis—Thinking skills and learning strategies for completing assignments are communicated explicitly to the student.

Decide this by taking into account whether:

- Thinking skills are clearly explained or modeled, and the student grasps these.
- The student knows how and why his/her responses are correct or incorrect.

- The student has had opportunities to explain the process used to complete specific tasks.
- Learning strategies are taught directly, and the student uses them.

COGNITIVE EMPHASIS	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 6: Motivational Strategies—Effective strategies for heightening student interest and effort are used with the student.

Decide this by taking into account whether:

- The student understands the importance of the assigned tasks for real-life performance.
- Instruction is designed to reflect the student's interests and experiences.
- Extra motivational techniques (e.g., rewards, goal-setting) are used when appropriate.
- The student is encouraged to perform (e.g., shown how, told he/she can do the work).
- The student believes he/she can do specific assignments.
- The student is held accountable for his/her level of performance.

MOTIVATIONAL STRATEGIES	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 7: Relevant Practice—The student is given adequate opportunity to practice with appropriate materials and a high success rate. Classroom tasks are clearly important to achieving instructional goals.

Decide this by taking into account whether:

Practice Opportunity

- The kind of practice (guided or independent) is appropriate for the student.
- The student is given ample time to engage in independent practice of skills at a 90-100% rate of success.
- Drill and practice are continued until automaticity is achieved.
- The student practices skills in varied ways to facilitate generalization.

Task Relevance

- Assigned tasks are relevant (e.g., related to the student's attainment of specific goals) not merely "busy work."
- The student achieves at least a 70% success rate on initial practice tasks.
- The student achieves an appropriate success rate on assigned tasks.

Instructional Material

- Different and supplemental materials and activities (in addition to textbooks and materials used with all students) are available to the student and used when appropriate.
- The materials are interesting to the student.
- The materials employ alternative ways of receiving information and responding.
- Seatwork activities are varied and help to keep the student actively engaged.

RELEVANT PRACTICE	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 8: Informed Feedback—The student receives relatively immediate and specific information on his/her performance or behavior; when the student makes mistakes, correction is provided.

Decide this by taking into account whether:

Feedback

- The student receives frequent and explicit feedback about his/her performance or behavior.
- The feedback includes task-specific praise and encouragement.
- Questioning techniques are adapted to elicit student responses.
- Cues and prompts are provided to increase the student's opportunity to respond.
- Positive strategies are employed for coping with failure.

Corrective Procedures

- Re-explanation is provided (not simply providing the student with the correct answer) when the student is confused or makes mistakes.
- After correction of errors, the student has an immediate chance to practice the procedure or execute the task correctly.
- The student is required to correct mistakes, and does so.
- Alternative teaching strategies are used to reteach the student.
- When the student is unsuccessful, the student's understanding of task directions and his/her skill level are checked.

INFORMED FEEDBACK	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MONITORING/EVALUATING INSTRUCTION FOR THE STUDENT

COMPONENT 9: Academic Engaged Time—The student is actively engaged in responding to academic content; the teacher monitors the extent to which the student is actively engaged and redirects the student when the student is unengaged.

Decide this by taking into account whether:

Student Involvement

- The student actively participates in an academically relevant lesson.
- Student attention is maintained through appropriate pacing and the provision of opportunities to respond.
- The student spends little time waiting.
- The student spends time out of school on homework and informal learning experiences.

Maintenance of Student Engagement

- Time on task is monitored (i.e., teacher- or self-monitored).
- There is an established mechanism for the student to get help if needed.
- There are established procedures and activities for the student when work is finished early.
- Questions or probes are directed to the student, and the student gets frequent opportunities to respond.

ACADEMIC ENGAGED TIME	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 10: Adaptive Instruction—The curriculum is modified within reason to accommodate the student's unique and specific instructional needs.

Decide this by taking into account whether:

- The student's needs, not only curriculum, are used to plan and modify instruction.
- Instruction is adapted so that the student can experience success.
- The student has several alternative ways to complete tasks.
- The student receives additional review and practice in areas of difficulty.
- Several options exist to provide the student with supplemental assistance.

ADAPTIVE INSTRUCTION	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 11: Progress Evaluation—There is direct, frequent measurement of the student's progress toward completion of instructional objectives; data on the student's performance and progress are used to plan future instruction.

Decide this by taking into account whether:

Monitoring Student Progress

- Instructional objectives and mastery criteria are specified clearly for the student.
- The student's success rate is monitored frequently.
- The student is regularly informed of progress toward instructional goals.
- Records of the student's progress are maintained.

Follow-Up Planning

- Data on the student's performance are used to decide whether to review, teach another way, or move on to a new skill.
- The student is given the time needed to learn before progressing through the curriculum.

PROGRESS EVALUATION	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMPONENT 12: Student Understanding—The student demonstrates an accurate understanding of what is to be done and how it is to be done in the classroom.

Decide this by taking into account whether:

- The student understands the task directions.
- The student understands the instructional goals.
- The student understands the processes required to complete assigned work.

STUDENT UNDERSTANDING	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Importance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other Observations/Information

APPENDIX F
INSTRUCTIONAL MODIFICATION CHECKLIST

INSTRUCTIONAL MODIFICATIONS

Please think about your student with ADHD as you fill out this form. Rank each item, with one as low or least and five as high or most.

Check any feasible instructional modifications:

a. Pace of instruction	1	2	3	4	5
b. Grouping arrangements	1	2	3	4	5
c. Selection of materials	1	2	3	4	5
d. Kind of assigned tasks	1	2	3	4	5
e. Instructional goals/objectives	1	2	3	4	5
f. Amount of practice and review	1	2	3	4	5
g. Feedback/reinforcement systems	1	2	3	4	5
h. Motivational systems	1	2	3	4	5
i. Grading/progress evaluation	1	2	3	4	5
j. Demonstration/modeling/ examples provided	1	2	3	4	5
k. Sequence of instruction	1	2	3	4	5
l. Task directions	1	2	3	4	5
m. Checking for student understanding	1	2	3	4	5
n. Supplemental instruction	1	2	3	4	5

(From the Instructional Needs Checklist of The Instructional Environment System-II)

APPENDIX G
TEACHER QUESTIONNAIRE

POSITIVE TEACHER ATTENTION: (give student verbal praise, recognition)

How knowledgeable or well trained do you feel in regard to this intervention?

1 2 3 4 5

How effective do you consider this intervention to be in general?

1 2 3 4 5

How likely would you be to implement this intervention?

1 2 3 4 5

low

high

BREAK IN ACTIVITY: (have student change activity, get a drink, take a note to the office, etc.)

How knowledgeable or well trained do you feel in regard to this intervention?

1 2 3 4 5

How effective do you consider this intervention to be in general?

1 2 3 4 5

How likely would you be to implement this intervention?

1 2 3 4 5

low

high

POSITIVE LISTENING: (listen to student's point of view)

How knowledgeable or well trained do you feel in regard to this intervention?

1 2 3 4 5

How effective do you consider this intervention to be in general?

1 2 3 4 5

How likely would you be to implement this intervention?

1 2 3 4 5

low

high

PEER TUTORING: (have student help or be helped by one other student)

How knowledgeable or well trained do you feel in regard to this intervention?

1 2 3 4 5

How effective do you consider this intervention to be in general?

1 2 3 4 5

How likely would you be to implement this intervention?

1 2 3 4 5

low

high

APPENDIX H
TEACHER PERSONAL DATA

TEACHER PERSONAL DATA

(All will be kept confidential.)

Education: BA/BS ___ Master's ___ Master's plus 30 hrs. ___ Doctorate ___

Gender: Male ___ Female ___ Age Range: 21-30 ___ 31-45 ___ Over 45 ___

Race: Asian ___ Black ___ Hispanic ___ Native American ___ White ___ Other ___

Years of teaching experience: Under 2 ___ 3-6 ___ 7-10 ___ 11-15 ___ Over 15 ___

Years taught: Regular Ed. ___ Special Ed. ___ Non-academic (P.E., Art, etc.) ___

Grade: 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ Mixed ___

Number of pupils in district now teaching in:

Fewer than 200 ___ 201-500 ___ 501-1000 ___ 1001-3000 ___ More than 3001 ___

Please indicate the amount of training you have had in working with students with ADHD: (mark highest level attained)

___ None

___ One hour: (a faculty meeting or watched an educational TV show)

___ Half a day: (attended half-day workshop)

___ One day: (attended all-day workshop or read a book)

___ Week end: (two or three day workshop read two or three books)

___ One week: (attended a weeklong workshop or attended two or more weekend workshops or self-taught (read several books)

___ One course

In an overall sense, how well prepared (trained) do you feel you are in working with students with ADHD? Please circle the appropriate number with 1 as "not well at all" and 5 as "very well."

1	2	3	4	5
not well at all				very well

APPENDIX I
INSTITUTIONAL REVIEW BOARD APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD

DATE: 10-21-98

IRB #: ED-99-037

**Proposal Title: DIFFERENCES IN ELEMENTARY SCHOOL TEACHERS'
INSTRUCTIONAL ENVIRONMENTS AND PERCEIVED COMPETENCE
TOWARD CHILDREN WITH ADHD AS A FUNCTION OF ATTITUDES
TOWARD CONTROL VERSUS AUTONOMY, TRAINING, AND EXPERIENCE**

Principal Investigator(s): Judy Oehler-Stinnett, Emily Anne Matlock

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Signature:

 cc

Date: October 21, 1998

Carol Olson, Director of University Research Compliance

cc: Emily Ann Matlock

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modification to the research project approved by the IRB must be submitted for approval. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

APPENDIX J
ANALYSIS OF VARIANCE OF TOTAL TEACHERS'
RESPONSES ON INSTRUCTIONAL
ENVIRONMENT: PRESENT

Tests of Between-Subjects Effects

Dependent Variable: TOTALENVA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	3.607 ^b	5	.721	2.777	.023	.149
Intercept	164.402	1	164.402	632.734	.000	.889
CONTAUTO	1.037	1	1.037	3.992	.049	.048
EXPER	.234	1	.234	.902	.345	.011
NOTRAIN	.368	1	.368	1.415	.238	.018
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	1.063E-03	1	1.063E-03	.004	.949	.000
EXPER * NOTRAIN	.250	1	.250	.964	.329	.012
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	20.526	79	.260			
Total	964.139	85				
Corrected Total	24.134	84				

Tests of Between-Subjects Effects

Dependent Variable: TOTALENVA

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	13.883	.804
Intercept	632.734	1.000
CONTAUTO	3.992	.506
EXPER	.902	.155
NOTRAIN	1.415	.217
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.004	.050
EXPER * NOTRAIN	.964	.163
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .149 (Adjusted R Squared = .096)

APPENDIX K
ANALYSIS OF VARIANCE OF TOTAL TEACHERS'
RESPONSES ON INSTRUCTIONAL
ENVIRONMENT: IMPORTANT
FOR ADHD

Tests of Between-Subjects Effects

Dependent Variable: TOTENVB

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	.955 ^b	5	.191	1.422	.225	.083
Intercept	198.530	1	198.530	1479.167	.000	.949
CONTAUTO	.563	1	.563	4.192	.044	.050
EXPER	.206	1	.206	1.534	.219	.019
NOTRAIN	7.891E-07	1	7.891E-07	.000	.998	.000
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	1.444E-05	1	1.444E-05	.000	.992	.000
EXPER * NOTRAIN	1.151E-04	1	1.151E-04	.001	.977	.000
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	10.603	79	.134			
Total	1110.160	85				
Corrected Total	11.558	84				

Tests of Between-Subjects Effects

Dependent Variable: TOTENVB

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	7.112	.476
Intercept	1479.167	1.000
CONTAUTO	4.192	.525
EXPER	1.534	.231
NOTRAIN	.000	.050
CONTAUTO * EXPER	.000	
CONTAUTO * NOTRAIN	.000	.050
EXPER * NOTRAIN	.001	.050
CONTAUTO * EXPER * NOTRAIN	.000	
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .083 (Adjusted R Squared = .025)

APPENDIX L
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON INSTRUCTIONAL
MATCH

Tests of Between-Subjects Effects

Dependent Variable: ENVMT1A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	9.064 ^b	5	1.813	3.765	.004	.192
Intercept	144.600	1	144.600	300.286	.000	.792
CONTAUTO	.484	1	.484	1.006	.319	.013
EXPER	3.106E-03	1	3.106E-03	.006	.936	.000
NOTRAIN	1.308	1	1.308	2.717	.103	.033
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	1.937E-02	1	1.937E-02	.040	.842	.001
EXPER * NOTRAIN	.898	1	.898	1.864	.176	.023
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	38.042	79	.482			
Total	996.000	85				
Corrected Total	47.106	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT1A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	18.823	.920
Intercept	300.286	1.000
CONTAUTO	1.006	.168
EXPER	.006	.051
NOTRAIN	2.717	.370
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.040	.055
EXPER * NOTRAIN	1.864	.271
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .192 (Adjusted R Squared = .141)

APPENDIX M
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON MOTIVATIONAL
STRATEGIES

Tests of Between-Subjects Effects

Dependent Variable: ENVMT6A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	4.485 ^b	5	.897	1.627	.163	.093
Intercept	176.800	1	176.800	320.631	.000	.802
CONTAUTO	2.108	1	2.108	3.823	.054	.046
EXPER	.503	1	.503	.912	.342	.011
NOTRAIN	5.907E-02	1	5.907E-02	.107	.744	.001
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.128	1	.128	.232	.631	.003
EXPER * NOTRAIN	1.683	1	1.683	3.052	.085	.037
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	43.562	79	.551			
Total	977.000	85				
Corrected Total	48.047	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT6A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	8.134	.539
Intercept	320.631	1.000
CONTAUTO	3.823	.489
EXPER	.912	.157
NOTRAIN	.107	.062
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.232	.076
EXPER * NOTRAIN	3.052	.408
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .093 (Adjusted R Squared = .036)

APPENDIX N
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON ACADEMIC
ENGAGED TIME

Tests of Between-Subjects Effects

Dependent Variable: ENVMT9A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	3.839 ^a	5	.768	1.334	.258	.078
Intercept	181.049	1	181.049	314.658	.000	.799
CONTAUTO	2.286	1	2.286	3.972	.050	.048
EXPER	1.299	1	1.299	2.257	.137	.028
NOTRAIN	2.133E-02	1	2.133E-02	.037	.848	.000
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	2.508E-02	1	2.508E-02	.044	.835	.001
EXPER * NOTRAIN	.415	1	.415	.720	.399	.009
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	45.455	79	.575			
Total	939.000	85				
Corrected Total	49.294	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT9A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	6.671	.448
Intercept	314.658	1.000
CONTAUTO	3.972	.504
EXPER	2.257	.317
NOTRAIN	.037	.054
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.044	.055
EXPER * NOTRAIN	.720	.134
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .078 (Adjusted R Squared = .020)

APPENDIX O
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
ON ADAPTIVE INSTRUCTION

Tests of Between-Subjects Effects

Dependent Variable: ENVMT10A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	6.438 ^b	5	1.288	1.844	.114	.105
Intercept	165.287	1	165.287	236.713	.000	.750
CONTAUTO	3.052	1	3.052	4.371	.040	.052
EXPER	.390	1	.390	.559	.457	.007
NOTRAIN	.241	1	.241	.346	.558	.004
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.230	1	.230	.330	.567	.004
EXPER * NOTRAIN	7.136E-02	1	7.136E-02	.102	.750	.001
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	55.162	79	.698			
Total	932.000	85				
Corrected Total	61.600	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT10A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	9.220	.601
Intercept	236.713	1.000
CONTAUTO	4.371	.542
EXPER	.559	.114
NOTRAIN	.346	.089
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.330	.088
EXPER * NOTRAIN	.102	.062
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .105 (Adjusted R Squared = .048)

APPENDIX P
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
ON PROGRESS EVALUATION

Tests of Between-Subjects Effects

Dependent Variable: ENVMT11A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	7.184 ^a	5	1.437	2.778	.023	.150
Intercept	173.050	1	173.050	334.552	.000	.809
CONTAUTO	2.663	1	2.663	5.148	.026	.061
EXPER	.785	1	.785	1.518	.222	.019
NOTRAIN	8.718E-02	1	8.718E-02	.169	.683	.002
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.354	1	.354	.685	.410	.009
EXPER * NOTRAIN	.806	1	.806	1.557	.216	.019
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	40.864	79	.517			
Total	977.000	85				
Corrected Total	48.047	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT11A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	13.888	.805
Intercept	334.552	1.000
CONTAUTO	5.148	.611
EXPER	1.518	.229
NOTRAIN	.169	.069
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.685	.129
EXPER * NOTRAIN	1.557	.234
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .150 (Adjusted R Squared = .096)

APPENDIX Q
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON STUDENT
UNDERSTANDING

Tests of Between-Subjects Effects

Dependent Variable: ENVMT12A

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	8.558 ^a	5	1.712	3.641	.005	.187
Intercept	141.920	1	141.920	301.905	.000	.793
CONTAUTO	2.742E-02	1	2.742E-02	.058	.810	.001
EXPER	1.034	1	1.034	2.199	.142	.027
NOTRAIN	3.839	1	3.839	8.166	.005	.094
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.1182	1	1.182	2.514	.117	.031
EXPER * NOTRAIN	.296	1	.296	.629	.430	.008
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	37.136	79	.470			
Total	1008.000	85				
Corrected Total	45.694	84				

Tests of Between-Subjects Effects

Dependent Variable: ENVMT12A

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	18.205	.910
Intercept	301.905	1.000
CONTAUTO	.058	.057
EXPER	2.199	.311
NOTRAIN	8.166	.806
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	2.514	.347
EXPER * NOTRAIN	.629	.123
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .187 (Adjusted R Squared = .136)

APPENDIX R
ANALYSIS OF VARIANCE OF TOTAL TEACHERS'
RESPONSES ON INSTRUCTIONAL
MODIFICATIONS

Tests of Between-Subjects Effects

Dependent Variable: TOTINSTR

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	5.165 ^a	5	1.033	3.274	.010	.172
Intercept	274.290	1	274.290	869.429	.000	.917
CONTAUTO	1.549	1	1.549	4.909	.030	.058
EXPER	1.270E-02	1	1.270E-02	.040	.841	.001
NOTRAIN	1.565E-02	1	1.565E-02	.050	.824	.001
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	.220	1	.220	.697	.406	.009
EXPER * NOTRAIN	.765	1	.765	2.425	.123	.030
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	24.923	79	.315			
Total	1464.801	85				
Corrected Total	30.088	84				

Tests of Between-Subjects Effects

Dependent Variable: TOTINSTR

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	16.371	.873
Intercept	869.429	1.000
CONTAUTO	4.909	.590
EXPER	.040	.055
NOTRAIN	.050	.056
CONTAUTO * EXPER	.000	
CONTAUTO * NOTRAIN	.697	.131
EXPER * NOTRAIN	2.425	.337
CONTAUTO * EXPER * NOTRAIN	.000	
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .172 (Adjusted R Squared = .119)

APPENDIX S
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON SELECTION OF
MATERIALS

Tests of Between-Subjects Effects

Dependent Variable: INSTMODC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	20.172 ^a	5	4.034	3.232	.010	.170
Intercept	280.037	1	280.037	224.360	.000	.740
CONTAUTO	4.259	1	4.259	3.412	.068	.041
EXPER	2.854	1	2.854	2.286	.135	.028
NOTRAIN	.490	1	.490	.393	.533	.005
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.451	1	.451	.362	.549	.005
EXPER * NOTRAIN	.124	1	.124	.099	.754	.001
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	98.605	79	1.248			
Total	1264.000	85				
Corrected Total	118.776	84				

Tests of Between-Subjects Effects

Dependent Variable: INSTMODC

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	16.161	.868
Intercept	224.360	1.000
CONTAUTO	3.412	.446
EXPER	2.286	.321
NOTRAIN	.393	.095
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.362	.091
EXPER * NOTRAIN	.099	.061
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .170 (Adjusted R Squared = .117)

APPENDIX T
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON COOPERATIVE
LEARNING

Tests of Between-Subjects Effects

Dependent Variable: COOP1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	7.210 ^a	5	1.442	1.911	.102	.108
Intercept	280.144	1	280.144	371.248	.000	.825
CONTAUTO	3.676	1	3.676	4.872	.030	.058
EXPER	1.805	1	1.805	2.392	.126	.029
NOTRAIN	5.301E-02	1	5.301E-02	.070	.792	.001
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	.201	1	.201	.267	.607	.003
EXPER * NOTRAIN	.440	1	.440	.583	.448	.007
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	59.614	79	.755			
Total	1508.000	85				
Corrected Total	66.824	84				

Tests of Between-Subjects Effects

Dependent Variable: COOP1

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	9.555	.619
Intercept	371.248	1.000
CONTAUTO	4.872	.587
EXPER	2.392	.333
NOTRAIN	.070	.058
CONTAUTO * EXPER	.000	
CONTAUTO * NOTRAIN	.267	.080
EXPER * NOTRAIN	.583	.117
CONTAUTO * EXPER * NOTRAIN	.000	
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .108 (Adjusted R Squared = .051)

APPENDIX U
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON PEER TUTORING:
EFFECTIVENESS

Tests of Between-Subjects Effects

Dependent Variable: PTU2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	7.156 ^a	5	1.431	2.907	.018	.155
Intercept	195.945	1	195.945	398.028	.000	.834
CONTAUTO	4.603	1	4.603	9.349	.003	.106
EXPER	3.694E-04	1	3.694E-04	.001	.978	.000
NOTRAIN	4.916E-02	1	4.916E-02	.100	.753	.001
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	.130	1	.130	.263	.609	.003
EXPER * NOTRAIN	.216	1	.216	.439	.509	.006
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	38.891	79	.492			
Total	1479.000	85				
Corrected Total	46.047	84				

Tests of Between-Subjects Effects

Dependent Variable: PTU2

Source	Noncent. Parameter	Observed Power
Corrected Model	14.537	.825
Intercept	398.028	1.000
CONTAUTO	9.349	.855
EXPER	.001	.050
NOTRAIN	.100	.061
CONTAUTO * EXPER	.000	
CONTAUTO * NOTRAIN	.263	.080
EXPER * NOTRAIN	.439	.100
CONTAUTO * EXPER * NOTRAIN	.000	
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .155 (Adjusted R Squared = .102)

APPENDIX V
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON PEER TUTORING:
COMPETENCE

Tests of Between-Subjects Effects

Dependent Variable: PTU3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	5.213 ^b	5	1.043	1.461	.212	.085
Intercept	239.324	1	239.324	335.440	.000	.809
CONTAUTO	5.759E-02	1	5.759E-02	.081	.777	.001
EXPER	.317	1	.317	.444	.507	.006
NOTRAIN	2.161	1	2.161	3.029	.086	.037
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	2.663	1	2.663	3.732	.057	.045
EXPER * NOTRAIN	1.374E-02	1	1.374E-02	.019	.890	.000
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	56.364	79	.713			
Total	1511.000	85				
Corrected Total	61.576	84				

Tests of Between-Subjects Effects

Dependent Variable: PTU3

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	7.307	.489
Intercept	335.440	1.000
CONTAUTO	.081	.059
EXPER	.444	.101
NOTRAIN	3.029	.405
CONTAUTO * EXPER	.000	
CONTAUTO * NOTRAIN	3.732	.479
EXPER * NOTRAIN	.019	.052
CONTAUTO * EXPER * NOTRAIN	.000	
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .085 (Adjusted R Squared = .027)

APPENDIX W
ANALYSIS OF VARIANCE OF TEACHERS'
RESPONSES ON MODIFYING THE
TASK: KNOWLEDGE

Tests of Between-Subjects Effects

Dependent Variable: MODIFY1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	6.220 ^b	5	1.244	1.384	.239	.081
Intercept	210.160	1	210.160	233.750	.000	.747
CONTAUTO	.176	1	.176	.196	.659	.002
EXPER	.155	1	.155	.173	.679	.002
NOTRAIN	3.789	1	3.789	4.214	.043	.051
CONTAUTO * EXPER	.000	0				.000
CONTAUTO * NOTRAIN	1.944	1	1.944	2.162	.145	.027
EXPER * NOTRAIN	2.926E-02	1	2.926E-02	.033	.857	.000
CONTAUTO * EXPER * NOTRAIN	.000	0				.000
Error	71.027	79	.899			
Total	1374.000	85				
Corrected Total	77.247	84				

Tests of Between-Subjects Effects

Dependent Variable: MODIFY1

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	6.918	.464
Intercept	233.750	1.000
CONTAUTO	.196	.072
EXPER	.173	.070
NOTRAIN	4.214	.527
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	2.162	.306
EXPER * NOTRAIN	.033	.054
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .081 (Adjusted R Squared = .022)

APPENDIX X
ANALYSES OF VARIANCE OF TEACHERS'
RESPONSES ON SELF-MONITORING

Tests of Between-Subjects Effects

Dependent Variable: SELF1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	6.711 ^a	5	1.342	.950	.454	.057
Intercept	161.012	1	161.012	113.935	.000	.591
CONTAUTO	1.021	1	1.021	.722	.398	.009
EXPER	.612	1	.612	.433	.512	.005
NOTRAIN	3.385	1	3.385	2.395	.126	.029
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	6.097	1	6.097	4.315	.041	.052
EXPER * NOTRAIN	.111	1	.111	.078	.780	.001
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	111.642	79	1.413			
Total	976.000	85				
Corrected Total	118.353	84				

Tests of Between-Subjects Effects

Dependent Variable: SELF1

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	4.749	.322
Intercept	113.935	1.000
CONTAUTO	.722	.134
EXPER	.433	.100
NOTRAIN	2.395	.333
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	4.315	.537
EXPER * NOTRAIN	.078	.059
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .057 (Adjusted R Squared = -.003)

Tests of Between-Subjects Effects

Dependent Variable: SELF2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	8.014 ^a	5	1.603	.995	.426	.059
Intercept	163.156	1	163.156	101.305	.000	.562
CONTAUTO	.564	1	.564	.350	.556	.004
EXPER	9.693E-02	1	9.693E-02	.060	.807	.001
NOTRAIN	6.871	1	6.871	4.266	.042	.051
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	3.585	1	3.585	2.226	.140	.027
EXPER * NOTRAIN	.128	1	.128	.079	.779	.001
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	127.233	79	1.611			
Total	949.000	85				
Corrected Total	135.247	84				

Tests of Between-Subjects Effects

Dependent Variable: SELF2

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	4.976	.337
Intercept	101.305	1.000
CONTAUTO	.350	.090
EXPER	.060	.057
NOTRAIN	4.266	.532
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	2.226	.314
EXPER * NOTRAIN	.079	.059
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .059 (Adjusted R Squared = .000)

APPENDIX Y
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
ON FEELING PREPARED FOR TEACHING
STUDENTS WITH ADHD

Tests of Between-Subjects Effects

Dependent Variable: FEELPREP

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	13.888 ^b	5	2.778	2.502	.032	.137
Intercept	148.081	1	148.081	133.409	.000	.628
CONTAUTO	2.639	1	2.639	2.378	.127	.029
EXPER	1.743	1	1.743	1.571	.214	.019
NOTRAIN	2.550	1	2.550	2.297	.134	.028
CONTAUTO * EXPER	.000	0	.	.	.	.000
CONTAUTO * NOTRAIN	.138	1	.138	.125	.725	.002
EXPER * NOTRAIN	.471	1	.471	.424	.517	.005
CONTAUTO * EXPER * NOTRAIN	.000	0	.	.	.	.000
Error	87.688	79	1.110			
Total	903.000	85				
Corrected Total	101.576	84				

Tests of Between-Subjects Effects

Dependent Variable: FEELPREP

Source	Noncent. Parameter	Observed Power ^a
Corrected Model	12.512	.755
Intercept	133.409	1.000
CONTAUTO	2.378	.331
EXPER	1.571	.236
NOTRAIN	2.297	.322
CONTAUTO * EXPER	.000	.
CONTAUTO * NOTRAIN	.125	.064
EXPER * NOTRAIN	.424	.099
CONTAUTO * EXPER * NOTRAIN	.000	.
Error		
Total		
Corrected Total		

a. Computed using alpha = .05

b. R Squared = .137 (Adjusted R Squared = .082)

APPENDIX Z
TABLES OF MEANS, STANDARD DEVIATIONS, FREQUENCIES,
AND ANALYSES OF VARIANCE
OF TEACHERS' RESPONSES

TABLE I

MEANS, STANDARD DEVIATIONS AND FREQUENCIES OF RESPONSES
BY CONTROL - AUTONOMY IN TOTALS AND SIGNIFICANCE

VARIABLE	X- CONTROL	X - AUTONOMY	SD- CONTROL	SD- AUTONOMY	FREQ- CONTROL	FREQ- AUTONOMY
Present in Instructional Environment - Total	3.8750	3.2984	.2500	.5324	4	81
Important in Instructional Environment - Total	4.0000	3.5751	.0000	.3686	4	81
Instructional Match - Present	3.7500	3.3210	.5000	.7554		
Motivational Strategy - Present	4.0000	3.2716	.0000	.7585		
Relevant Practice - Present	3.7500	3.3210	.5000	.6861		
Academic Engaged Time - Present	4.0000	3.1975	.0000	.7652		
Adaptive Instruction - Present	4.0000	3.1605	.0000	.8581		
Progress Evaluation - Present	4.0000	3.2716	.0000	.7585		
Student Understand - Present	3.5000	3.3580	1.0000	.7299		
Instructional Modifications - Total	4.9643	4.0611	7.143E-02	.5809	4	81
Selection of Materials	5.0000	3.6049	.0000	1.1798		
Classroom Interventions - Total	3.9479	3.9264	.3088	.4773	4	81
Self-Monitor (Knowledge)	3.0000	3.1852	1.6330	1.1738		
Self Monitor (Works)	3.0000	3.0988	1.6330	1.2610		
Cooperative Learning (Knowledge)	5.0000	4.0741	.0000	.8913		
Peer Tutor (Works)	3.0000	4.1605	.0000	.7151		
Peer Tutor (Use)	3.5000	4.1605	1.0000	.8435		
Feeling Prepared for ADHD - Total	4.0000	3.0200	1.1500	1.0800	4	81

TABLE II
 MEANS, STANDARD DEVIATIONS AND FREQUENCIES OF
 TEACHERS' RESPONSES BY TEACHING EXPERIENCE

VARIABLE	X- NOVICE	X - EXPERIENCE	SD- NOVICE	SD- EXPERIENCE	FREQ- NOVICE	FREQ- EXPERIENCE
Instructional Environment - Present	3.3409	3.3232	.2750	.5659	11	74
Instructional Environment - Important	3.7197	3.5766	.2084	.3869	11	74
Instructional Modifications	4.1948	4.0956	.3275	.6294	11	74
Teacher Questionnaire - Classroom Interventions	4.0341	3.9116	.3183	.4876	11	74
Feeling Prepared for ADHD	3.2700	3.0400	.6500	1.1500	11	74

TABLE III
 OVERALL MEANS, STANDARD DEVIATIONS, AND FREQUENCIES
 OF TEACHERS' RESPONSES BY ADHD TRAINING

VARIABLE	X- NO TRAINING	X- TRAINING	SD- NO TRAINING	SD- TRAINING	FREQ- NO TRAINING	FREQ- TRAINING
Instructional Environment - Present	3.0156	3.3973	.7989	.4316	16	69
Instructional Environment - Important	3.6094	3.5918	.4672	.3489	16	69
Instructional Modifications	4.3527	4.0518	.5493	.5989	16	69
Teacher Questionnaire - Classroom Interventions	3.8932	3.9354	.5153	.4619	16	69
Feeling Prepared - Re: ADHD	2.4400	3.2200	1.0900	1.0600	16	69

TABLE IV
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
BY INSTRUCTIONAL ENVIRONMENT

VARIABLE	F	P
Instructional Match – Important		
Control/Autonomy	2.378	NS
Experience	3.179	NS
ADHD Training	.306	NS
Teacher Expectations – Present		
Control/Autonomy	2.870	NS
Experience	2.429	NS
ADHD Training	.026	NS
Teacher Expectations – Important		
Control/Autonomy	1.080	NS
Experience	.178	NS
ADHD Training	.001	NS
Classroom Environment – Present		
Control/Autonomy	3.246	NS
Experience	.405	NS
ADHD Training	.252	NS
Classroom Environment – Important		
Control/Autonomy	1.084	NS
Experience	.888	NS
ADHD Training	.108	NS
Instructional Presentation – Present		
Control/Autonomy	2.599	NS
Experience	.006	NS

TABLE IV (continued)

VARIABLE	F	P
ADHD Training	.009	NS
Instructional Presentation – Important		
Control/Autonomy	1.067	NS
Experience	.091	NS
ADHD Training	.085	NS
Cognitive Emphasis – Present		
Control/Autonomy	1.367	NS
Experience	.065	NS
ADHD Training	1.440	NS
Cognitive Emphasis – Important		
Control/Autonomy	1.959	NS
Experience	.701	NS
ADHD Training	.006	NS
Motivational Strategies – Important		
Control/Autonomy	1.023	NS
Experience	.324	NS
ADHD Training	.003	NS
Relevant Practice – Important		
Control/Autonomy	1.550	NS
Experience	1.032	NS
ADHD Training	.376	NS
Informed Feedback – Present		
Control/Autonomy	.436	NS
Experience	.559	NS
ADHD Training	2.032	NS

TABLE IV (continued)

VARIABLE	F	P
Informed Feedback – Important		
Control/Autonomy	1.366	NS
Experience	.287	NS
ADHD Training	.329	NS
Academic Engaged Time – Important		
Control/Autonomy	1.312	NS
Experience	1.118	NS
ADHD Training	.310	NS
Adaptive Instruction – Important		
Control/Autonomy	1.114	NS
Experience	.044	NS
ADHD Training	.003	NS
Progress Evaluation – Important		
Control/Autonomy	2.140	NS
Experience	2.528	NS
ADHD Training	.106	NS
Student Understanding – Important		
Control/Autonomy	.156	NS
Experience	.286	NS
ADHD Training	.683	NS

TABLE V
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
BY INSTRUCTIONAL MODIFICATIONS

VARIABLE	F	P
Pace of Instruction		
Control/Autonomy	1.469	NS
Experience	.494	NS
ADHD Training	.525	NS
Grouping Arrangements		
Control/Autonomy	1.041	NS
Experience	1.244	NS
ADHD Training	.301	NS
Kind of Assigned Tasks		
Control/Autonomy	2.447	NS
Experience	.006	NS
ADHD Training	.354	NS
Instructional Goals/Objectives		
Control/Autonomy	2.060	NS
Experience	.882	NS
ADHD Training	.154	NS
Amount of Practice and Review		
Control/Autonomy	1.809	NS
Experience	1.035	NS
ADHD Training	.028	NS

TABLE V (continued)

VARIABLE	F	P
Feedback/Reinforcement Systems		
Control/Autonomy	1.097	NS
Experience	.194	NS
ADHD Training	.180	NS
Motivational Systems		
Control/Autonomy	1.136	NS
Experience	.217	NS
ADHD Training	.434	NS
Grading/Progress Evaluation		
Control/Autonomy	1.858	NS
Experience	1.991	NS
ADHD Training	.724	NS
Demonstration/Modeling		
Control/Autonomy	8.53	NS
Experience	.225	NS
ADHD Training	.061	NS
Sequence of Instruction		
Control/Autonomy	2.287	NS
Experience	1.249	NS
ADHD Training	.062	NS

TABLE V (continued)

VARIABLE	F	P
Task Directions		
Control/Autonomy	.971	NS
Experience	.905	NS
ADHD Training	.207	NS
Student Understanding		
Control/Autonomy	.610	NS
Experience	.018	NS
ADHD Training	.177	NS
Supplemental Instruction		
Control/Autonomy	2.453	NS
Experience	.389	NS
ADHD Training	.130	NS

TABLE VI
ANALYSIS OF VARIANCE OF TEACHERS' RESPONSES
BY TEACHER QUESTIONNAIRE: CLASSROOM
INTERVENTION

VARIABLE	F	P
Teacher Questionnaire – Total		
Control/Autonomy	.272	NS
Experience	.524	NS
ADHD Training	.120	NS
Knowledgeable (Know 1) – Total		
Control/Autonomy	1.460	NS
Experience	.560	NS
ADHD Training	.035	NS
Effective (Work 2) – Total		
Control/Autonomy	.142	NS
Experience	.798	NS
ADHD Training	.418	NS
Competent (Competent 3) – Total		
Control/Autonomy	.023	NS
Experience	.029	NS
ADHD Training	.446	NS
Modify Task (Work)		
Control/Autonomy	.429	NS
Experience	.245	NS
ADHD Training	.571	NS
Modify Task (Competent)		
Control/Autonomy	.838	NS
Experience	1.496	NS

TABLE VI (continued)

VARIABLE	F	P
ADHD Training	.168	NS
Self-Monitor (Competent)		
Control/Autonomy	.317	NS
Experience	.320	NS
ADHD Training	2.632	NS
Loss of Privilege (Know)		
Control/Autonomy	1.680	NS
Experience	.867	NS
ADHD Training	.003	NS
Loss of Privilege (Work)		
Control/Autonomy	3.143	NS
Experience	.842	NS
ADHD Training	1.924	NS
Loss of Privilege (Competent)		
Control/Autonomy	2.879	NS
Experience	.130	NS
ADHD Training	3.220	NS
Cooperative Learning (Work)		
Control/Autonomy	1.038	NS
Experience	.255	NS
ADHD Training	.001	NS
Cooperative Learning (Competent)		
Control/Autonomy	.356	NS
Experience	.495	NS
ADHD Training	1.280	NS

TABLE VI (continued)

VARIABLE	F	P
Positive Teacher Attention (Know)		
Control/Autonomy	1.524	NS
Experience	.390	NS
ADHD Training	.010	NS
Positive Teacher Attention (Work)		
Control/Autonomy	1.437	NS
Experience	.072	NS
ADHD Training	.218	NS
Positive Teacher Attention (Competent)		
Control/Autonomy	1.350	NS
Experience	.000	NS
ADHD Training	.381	NS
Break (Know)		
Control/Autonomy	.959	NS
Experience	.036	NS
ADHD Training	.161	NS
Break (Work)		
Control/Autonomy	1.291	NS
Experience	1.018	NS
ADHD Training	1.048	NS
Break (Competent)		
Control/Autonomy	.878	NS
Experience	.627	NS
ADHD Training	.757	NS

TABLE VI (continued)

VARIABLE	F	P
Positive Listening (Know)		
Control/Autonomy	.462	NS
Experience	.371	NS
ADHD Training	.865	NS
Positive Listening (Work)		
Control/Autonomy	.237	NS
Experience	1.435	NS
ADHD Training	2.844	NS
Positive Listening (Competent)		
Control/Autonomy	2.611	NS
Experience	1.551	NS
ADHD Training	.095	NS
Peer Tutor (Know)		
Control/Autonomy	1.363	NS
Experience	.017	NS
ADHD	.054	NS

VITA²

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Candidate for the Degree of

Doctor of Philosophy

**Thesis: DIFFERENCES IN ELEMENTARY SCHOOL TEACHERS'
INSTRUCTIONAL ENVIRONMENTS AND PERCEIVED COMPETENCE
TOWARD CHILDREN WITH ADHD AS A FUNCTION OF ATTITUDES
TOWARD CONTROL VS. AUTONOMY, TRAINING, AND EXPERIENCE**

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