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The Effects of Teacher Performance Feedback on Treatment Integrity in Prereferral Intervention

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THE EFFECTS OF TEACHER PERFORMANCE FEEDBACK ON TREATMENT
INTEGRITY IN PREREFERRAL INTERVENTION

A Dissertation

Submitted to the School of Graduate Studies and Research
in Partial Fulfillment of the
Requirements for the Degree
Doctor of Education

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This correlational design study systematically evaluated the degree to which a selected prereferral to special education intervention was implemented according to two levels by regular education elementary teachers in grades two through five in four elementary buildings within a rural Pennsylvania school district. The two levels include: the intervention provided in written one-page summary format without scripting or consultation, and intervention implementation with scripting and consultant instruction on intervention implementation. The teachers implementing the intervention were to be given the opportunity to participate in two enhanced consultation sessions if their implementation rates fell below 98%. Additional gains in treatment integrity were anticipated if enhanced consultation sessions were necessary.

A second level of comparative analysis occurred in regard to the impact that the intervention had directly on students especially in the cases where there was a high rate of treatment integrity. A literature-based self-monitoring intervention was selected to increase the on-task rates of students during classroom instruction in the regular education setting.

The results from the statistical analysis are listed below. First, all students who participated demonstrated significant increases in on-task rates with the most significant increases occurring when teachers were only

provided with the intervention script. Second, teacher treatment integrity rates were 100% throughout the intervention and thus were not subject to the two enhanced consultation sessions. Third, there were no significant correlations between student grade level and student on-task rates. All students demonstrated significant on-task rate increases throughout the study in the presence of the self-monitoring intervention. Fourth, there were no significant correlations present between student on-task rates and teachers' years of teaching experience. Last, there was a negative correlation between student on-task rates and the number of teacher graduate credits.

Limitations and implications for professionals are discussed as well as areas for future research regarding treatment integrity and possible replication of this study.

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CHAPTER I

INTRODUCTION

In the twenty-first century, empirically-based school interventions to address student needs in academic, behavior, and social areas have increased. In conjunction with the increase in the number of effective school-based interventions, there has been an increase in the understanding of the importance of applying these interventions according to protocol. In the 1990's, specific research was compiled related to the importance of treatment integrity and the integral nature of treatment integrity in intervention application. This research demonstrated that numerous methods have been utilized in an attempt to increase treatment integrity rates including intervention scripting, checklists, direct observation, coaching, trainings, and consultation to name a few. However, the results have varied significantly in terms of the degree of success that these strategies have had in increasing treatment integrity rates. Empirical research has demonstrated that most structured, measurable strategies increase treatment integrity rates and are far superior methods to leaving treatment integrity unmeasured. With this in mind, the problem facing this researcher is what particular methods are most likely to increase treatment integrity in school-based interventions.

This research project proposed to investigate if scripting procedures, consultation, checklists, direct observation, and self-monitoring procedures increased the likelihood that intervention steps were followed according to protocol. Within this chapter the research questions are stated as well as the associated hypotheses. The significance of the research problem is substantiated, terms are defined, and the

limitations of the research are highlighted.

From previous research and statistical analysis it is apparent that poor intervention implementation has an adverse effect on intervention outcomes and undermines the purpose of interventions themselves. When treatment integrity rates are low, incorrect conclusions can easily be made about the outcome of an intervention, and incorrect conclusions about response to intervention can occur leaving many individuals involved in the intervention to become frustrated including students, teachers, support teams, parents, and consultants. Furthermore, it is evident that when treatment integrity rates are low, in terms of the application of an intervention, internal validity is seriously compromised. In essence, we are not measuring what we intended to measure. Gresham's research enabled a number of factors to be considered that lend consideration in their potential impact on treatment integrity rates including: "the complexity of the treatments/intervention, the time required to implement the intervention, the materials and resources that are required to implement the intervention, the number of agents and variables, the perceived and actual effectiveness of the intervention, and the motivation of the individuals involved with the intervention" (Gresham, 1989, p.38). Within this research project, significant efforts are made to address these issues, regarding the impact of scripting and consultation on intervention outcomes.

Statement of the Problem

Within the context of this research project, there are two intended goals. First, the primary goal was to increase on-task behaviors and rates of students in the regular education setting via a prereferral intervention

that has been researched and documented as being effective. The secondary goal was to increase the likelihood of an increase in on-task behavior by establishing acceptable treatment integrity of the intervention being implemented.

Treatment integrity at the prereferral level, prior to evaluation for special education services, is of particular importance and interest because it affords several protections to students. A high level of treatment integrity enables children to be educated in the least restrictive environment and it assists in assuring that a free appropriate public education program is being provided within the parameters of public education law, regulations, and guidelines. High levels of treatment integrity enable school psychologists and teachers to be certain that not only interventions, but curriculum and other components of core instruction are being delivered as the developers of these tools and materials intended. Students then are being provided with the assurance that every effort has been reasonably made to accommodate them in the regular education environment (Mortenson & Witt, 1998).

Additionally, prereferral interventions help to increase the likelihood that teacher referral occurs on the basis of operational terms given a child's academic or behavior deficiencies, not on intuition, bias, or lack of tolerance. Finally, when an intervention is properly developed and implemented, it is able to contribute meaningful assessment data which may be helpful and useful in determining whether a student's difficulty is the result of a skill or a performance deficit (Daly, Witt, Martens, & Dool, 1997).

In further expanding the description of the research problem, two

specific areas were researched. The first area of consideration was what impact intervention scripting and consultation had on treatment integrity rates. The second area of consideration was the impact of scripting consultation on the treatment integrity rates and the overall outcome of a selected prereferral intervention intended to increase elementary students' on-task behavior rates during classroom instruction in their regular education classrooms.

There were several assumptions made within the context of this research project involving increasing the treatment integrity of a prereferral intervention utilized to increase the on-task behavior of identified students in regular education classrooms grades two through six. First, it has been found that interventions that were applied without the monitoring of treatment integrity are less likely to be successful interventions for students at the prereferral level. A meta-analysis completed by Gresham and Cohen (1993) reviewed 181 experimental studies published between 1980 and 1990 in several journals known for behaviorally based interventions. Variables assessed included whether or not treatment integrity was assessed, the degree of treatment integrity, operational definitions of treatments, and effect sizes produced by these interventions. "Only 14.4%, or 26 of the 181 studies systematically measured and reported integrity data; only 34%, or 65 of the 181 studies operationally defined treatments; and moderate positive correlations were found between degree of treatment integrity and level of treatment outcome" (Gresham & Cohen, 1993, p.254).

Gresham (1989) reviewed studies and research in completing a meta-analysis of treatment integrity that indicates that in several studies from

1968 to 1980 only 16% of the studies reported the measurement of treatment integrity thus underscoring the need for additional research in this area. More recent research conducted by McIntyre, Gresham, DiGennaro & Reed (2007) published in the Journal of Applied Behavior Analysis revealed that of 142 articles reviewed by these authors only 30% of the studies provided treatment integrity data, and 45% of the studies were judged to be at high risk for treatment inaccuracies. This is described as only a "modest improvement" in treatment integrity data collection and reporting of the past 30 years. Thus, this evidence supports the measurement of treatment integrity within the application of interventions as the measurement of treatment integrity increased the likelihood of successful intervention for students.

Additionally, treatment integrity monitoring and measurement, although not mandated by federal and state mandates, is strongly encouraged to assist in eliminating the use of ineffective strategies and to avoid overlooking potentially useful strategies and interventions. When an intervention is not implemented with integrity, or as intended and designed, the internal and external validity of the entire process is compromised.

Internal validity refers to factors other than the intervention itself such as inconsistent administration of an intervention such as a self-monitoring program which may influence the overall outcome. When internal validity is compromised, it becomes difficult for the intervention team to make accurate conclusions about the intervention outcomes and prohibits the intervention from being replicated properly. In simplest terms, compromising internal validity of an intervention does not allow for

alternative explanations for the change in behavior to be ruled out. Conversely, external validity refers to factors that would not allow the findings and overall outcome of an intervention to be generalized to other circumstances, students, and/or settings.

Second, it has been determined that treatment integrity can be monitored in a variety of formats including: direct observation, feedback from consultants, self-monitoring, self-reporting, behavioral interview techniques, permanent products, and manualized treatments and scripts. Within this research project, several of these formats were utilized including: direct observation of implementation of the intervention, teacher self-monitoring, manualized treatments/protocol, scripts, and permanent products in the form of checklists. According to Gresham, measuring treatment integrity requires three steps: components and steps of an intervention must be clearly specified in operational terms; the recording of each occurrence of and nonoccurrence of each treatment component must occur; and the level of the treatment integrity must be calculated by determining the number of steps followed as compared to the total number of steps in the intervention.

Third, it has been established that performance feedback in the form of consultative meetings, scripting, checklists, and direct observation with feedback to teachers will increase treatment integrity. Numerous studies and research have supported this concept and idea. Mortenson and Witt (1998) conducted a case study revealing that in three out of four cases, performance feedback significantly assisted in increased intervention treatment integrity. Resultantly, student data that was collected involving the intervention, which was a prereferral academic

intervention, demonstrated improvement in the targeted student academic performance area. When teacher intervention treatment integrity is not measured or accounted for, treatment integrity and student outcomes related to the intervention suffer. Wickstrom, Jones, LaFleur, & Witt (1998) reported that direct observation of teacher intervention implementation in the absence of treatment integrity monitoring and consultative measures resulted in interventions being implemented according to protocol a remarkably low 4% of the time. The need for additional research in this area is supported by the fact that limited research has been conducted on consultative approaches to increase treatment integrity such as scripting, checklists, and teacher self-monitoring (Noell, Witt, Gilbertson, Rainer, & Freeland, 1997). The fact that research has been limited in this area is surprising given results produced from researchers indicating that the use of a treatment integrity package including consultative techniques increased treatment integrity rates of intervention application from 9% and 37% to 60% and 83% respectively.

Fourth, it has been found that self-monitoring is at this point in time a mature intervention within the body of empirical research in spite of the fact that additional research needs to be conducted. Again, numerous studies, such as a meta-analysis conducted by Reid (1996) demonstrate the value and efficacy of self-monitoring as a successful intervention strategy for targeting and subsequently improving numerous aspects of behavior including attention to task and academic performance such as work completion. Additionally, as previously stated, the effects of self-monitoring on time on task have been significant, quite robust, and have been demonstrated across differing age levels and regular education and

special education instructional settings. These positive effects have been realized in individual, small group, and large group settings. Also, positive effects have been observed within the context of self-monitoring as an intervention as being durable lasting in many cases at least several months beyond the extinction point of the intervention.

A fifth finding was that this intervention intended to increase on-task behavior of students at the prereferral level would meet with a high degree of treatment acceptability for teachers. The intervention itself will last a total of nine weeks until all phases are completed. When treatment integrity rates are at least at 80%, minimal teacher time was required because additional consultation sessions could be avoided (such as the enhanced consultation component of the research project as discussed later). When treatment integrity levels were high, this occurrence acted as a positive reinforcer related to treatment acceptability in that teachers did not view the intervention as requiring much time to implement. Previous research indicates that the amount of time involvement by teachers related to an intervention significantly effects the judgments of intervention acceptability. If significant time was required of the teacher to develop and implement an intervention, treatment acceptability and adherence to intervention protocol was significantly diminished. Consideration was given to these factors in selecting and designing this research project as the teachers had no time commitment or involvement in designing the selected intervention. Initial time involving consultation in providing the intervention protocol, scripts, and the self-monitoring checklists to the teacher was minimal. One negative aspect of reduced teacher time involvement was the possibility of reduced teacher commitment and

investment to the success of the selected intervention.

In summary, this research project involved five specific assumptions. First, it was assumed that treatment integrity measurement was a relevant component and a prerequisite for successful prereferral intervention selection, development, and application. Second, it was assumed that treatment integrity could be measured and monitored in a variety of formats. Third, it was assumed that the most effective, research-documented formats have been selected. Fourth, specific consultative techniques such as scripting, use of protocols, observations, and intervention step checklists for teacher self-monitoring were selected based on their efficacy in the existing research base, thus it is assumed that these consultation techniques would assist with increasing treatment integrity rates. Fifth, it was assumed that the selected self-monitoring student intervention for increasing on-task behavior would be successful in increasing these rates due to the intervention being research-based. Sixth, it was assumed that due to the practicality and design of the intervention that treatment acceptability of the selected intervention would be good which would be reinforced by reduced teacher time to implement the intervention.

Significance of the Problem

Research in the area of treatment integrity, or the degree to which a treatment or intervention is implemented as planned (Gresham, 1989) is of great significance as the stakes in education continue to rise with mandates such as "No Child Left Behind" and increasing demands in regard to student achievement. In addition the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) encourages the use of a

prereferral level of intervention for students in grades kindergarten through twelve. One of the greatest areas of concern related to student learning involving both academic achievement and behavior is the degree to which students are able to spend time on task during instruction in the classroom. Many students are referred to prereferral and Instructional Support Teams due to low rates of time on task. Numerous interventions have been shown to be successful methods and strategies for improving students' time on task rates. However, unfortunately many of these interventions are not implemented as intended thus their effectiveness is lost. Furthermore, additional research has consistently demonstrated that when interventions are applied with no monitoring, feedback, consultation, scripting, or intervention implementation training, treatment integrity levels decrease as do positive outcomes for students.

Wickstrom, Jones, LaFleur, and Witt (1998) conducted research that demonstrated teachers implemented interventions to reduce problem behavior as planned and intended only 4% of the time. With treatment integrity rates this low, there is no surprise that positive student outcomes are often not realized. Conversely, when treatment integrity protocol, procedures, and monitoring occur in conjunction with teacher performance feedback in the application of given interventions, the likelihood of response to intervention with positive outcomes for students significantly increases. Treatment integrity has been shown to increase when teachers are encouraged or required to participate in additional consultation meetings and sessions due to low rates of successful intervention implementation (DiGennaro, 2005). Preliminary indications also imply that the prospects of additional consultation sessions due to low treatment integrity rates may increase

treatment integrity in the presence of scripted interventions. This study attempted to explore this relationship as an additional strategy to increase both the selected intervention implementation as well as to produce positive outcomes for students requiring such an intervention to increase student on-task rates.

Research Questions

First, scripted interventions have been classified as a strong assessment technology which enables the measurement of treatment integrity rates across treatment situations, settings, and time. Scripted interventions are likely to increase student success, lessen teacher frustrations, increase the accurate monitoring of intervention outcomes, and increase the understanding of student difficulties and strengths, and increase treatment integrity rates. Three researchers evaluated the effects of performance feedback and treatment integrity packages including intervention scripting on actual measured treatment integrity and found that "the mean levels of treatment integrity during baseline phase ranged from 9% to 37% and increased with the use of performance feedback and intervention scripting to a range of 60% to 83%" (Jones, Wickstrom, & Friman, 1997, p.316).

In other words, research has demonstrated that treatment integrity rates increased through these methods, inclusive of scripted interventions, to a nearly acceptable level of 70% to 80% successful implementation. This investigator sought to determine whether student on-task rates would remain below 80% when intervention scripting and consultation as performance feedback were not provided to the participating teachers. It is important to note that 98% was selected as the desired cut point for treatment

integrity rates due to previous research conducted by Jones, Wickstrom, and Friman (1997) that who indicate that in order for classroom interventions to be successful intervention treatment integrity rates should be at a minimum rate of 80%. Thus, the first research question was:

1) In the absence of intervention scripting and intervention consultation within the context of a selected intervention, did student time on-task rates remain below 80%?

Second, one of the primary goals of consultation within the Intervention framework is to ensure that interventions actually are delivered to and reach students as intended. Researchers such as Ehrhardt, Barnett, Lentz, Stollar, and Reifin (1996) indicate that scripted interventions presented in consultative format reduce problem behaviors in the academic setting with students. They recommend that treatment integrity be directly evaluated and that single case designs be used to evaluate consultation. The second research question then involved the presence of scripting and consultation as follows:

2) Would student on-task rates increase to 80% or greater in cases where they were previously less than 80% in the presence of intervention scripting and teacher consultation in the context of the student self-monitoring intervention?

Third, research conducted by DiGennaro, Martens, McIntyre, and Lee (2005) revealed that aversive techniques and punishment are viable options that could utilized to increase treatment integrity rates. Their research involved teachers receiving daily written feedback related to their accuracy in implementing an intervention targeted at increasing student on-task behavior. It was decided to not utilize this type of aversive

technique to assist teachers in increasing their treatment integrity rates, but to instead offer two enhanced consultation sessions for any teachers whose treatment integrity rates were below 98% after the first five weeks of the intervention. If the teachers were able to maintain high rates of treatment integrity, they were not to be offered the enhanced consultation sessions through consultation training protocol present as Appendix H. The third research question then combined intervention scripting and two enhanced consultation sessions, if needed, in an attempt to explore whether there would be a correlation between these techniques and increased treatment integrity rates.

3) What impact did additional consultation meetings in the format of two enhanced consultation sessions to further instruct teachers on intervention steps have on treatment integrity rates when the treatment integrity rates were below 98% during this self-monitoring intervention?

The fourth, fifth, and sixth research questions investigate potential extraneous variables that may impact student on-task rates and treatment integrity rates throughout the study being student/child development (grade level), years of teaching experience, and additional teacher education (graduate credits completed).

4) Do student on-task rates increase in the presence of the self-monitoring intervention as student grade level increases?

5) Were the student on-task rates higher for students that had teachers with more years of teaching experience?

6) Were the student on-task rates higher for students that had teachers with a higher level of educational training as defined by completed graduate coursework or graduate credits successfully completed?

Research Hypotheses

The following hypotheses were developed in order to answer these research questions. Primary focus was placed on the teacher response to intervention scripting, intervention consultation, and enhanced consultation sessions when treatment integrity rates were below 98% in the presence of a student self-monitoring intervention utilized to increase student time on-task rates during direct instruction. The fourth, fifth, and sixth research questions investigated relationships between student on-task rates, or response to the intervention and student grade levels, years of teacher experience, and number of graduate credits completed by the participating teachers. These relationships were explored because it was thought that these three factors may have some relationship or impact on the level of success of the self-monitoring intervention. For instance, from a child development research standpoint, older elementary students respond more effectively to self-monitoring interventions than younger elementary students. From a common sense standpoint, it was thought that teachers with greater years of experience and with additional graduate education and training would respond more favorably to application of the self-monitoring intervention and thus greater increases in student on-task rates would be realized. The hypotheses are as follows:

- 1) Did student time on-task rates remain below 80% in the absence of scripted intervention and consultation? The hypothesis was that student on-task rates would remain below 80% in the absence of scripted intervention and consultation.
- 2) Did student on-task rates increase to 80% or greater in cases where they were previously less than 80% when scripted intervention checklists were

used and teacher consultation occurred? The hypothesis was that student on-task behavior rates would increase to 80% or greater.

3) What impact did additional consultation meetings in the format of two enhanced consultation sessions to further instruct teachers on intervention steps have on treatment integrity rates when the treatment integrity rates were below 98% during this self-monitoring intervention? The hypothesis was that two enhanced consultation sessions would increase teacher treatment integrity rates to 98% or greater in cases where they were previously less than 98%.

4) Do student on-task rates increase in the presence of the self-monitoring intervention as student grade level increases? The hypothesis was that participating students at a higher grade level would experience more substantial increases in on-task rates.

5) Were the student on-task rates higher for students that had teachers with more years of teaching experience? The hypothesis was that student on-task rates throughout the intervention would be higher for students who had teachers with greater years of teaching experience, and that teacher treatment integrity rates would be higher.

6) Were the student on-task rates higher for students that had teachers with a higher level of educational training as defined by completed graduate coursework or graduate credits successfully completed? The hypothesis was that student on-task rates throughout the intervention would be higher for students who had teachers with a greater number of successfully completed graduate credits, and that teacher treatment integrity rates would be higher.

The research questions, hypotheses, variables, statistical methods,

assumptions, and appropriateness factors of this research project are listed in Table 1.

Table 1

Research Questions, Hypotheses, Variables, Statistical Analyses, and Statistical Assumptions for the Treatment Integrity Research Project

Research Questions	Hypotheses	Variables	Statistic	Assumptions	Appropriateness
1. Is the student on-task rate below 80% in the absence of scripted intervention and consultation?	Student on-task rates are less than 80%.	Student on-task rates during baseline	t-test for depend. samples and means	1. Interval or Ratio data 2. Normality 3. Equal variances 4. Sample size	1. Examine the instrument 2. Normal curve 3. Descriptive statistics 4. "Rules of Thumb"
2. Do student on-task rates increase to at least 80% in the cases where they were less than 80% in the presence of scripted intervention and consultation?	On-task rates are at least 80%.	Student on-task rates during baseline and phase 1	t-test for depend. samples and means	1. Interval or Ratio data 2. Residual normality for each X value 3. Residuals equal variance for each X value 4. Linearity	1. Examine the instrument 2. Examine a plot of the residuals 3. Visual inspection of a scattergram 4. Visual inspection of a scattergram
3. Did teacher participation in enhanced consultation sessions	Implementation rates increase to at least 98% in 100% of the cases.	Teacher interv. implement. rates	t-tests for depend. samples and means	1. Interval or Ratio data 2. Residual normality 3. Residuals	1. Examine instrument 2. Examine a plot of the 3. Visual

increase				equal	inspection
teacher				variance	of a
implement.				for each X	scattergram
rates to 98%				value	
or greater				4.Linearity	4.Visual
in cases					inspection
where it was	of				a
less than 98%?					scattergram
4.Do on-task	On-task rates	Student	t-tests	1.Interval or	1.Examine the
rates increase	are higher	on-task	for	Ratio data	instrument
in the	with students	rates	depend.	2.Normality	2.Normal
presence of	at higher		samples		curve
the self-	grade levels.			3.Equal	3.Descriptive
monitoring				variances	statistics
intervention				4.Sample	4."Rules of
as student				size	thumb"
grade levels					
increase?					
5.Are on-task	On-task rates	Student	t-tests	1.Interval or	1.Examine the
rates > for	are higher for	on-task	for	Ratio data	instrument
students who	students who	rates	depend.	2.Residual	2.Examine a
had teachers	had teachers		samples	normality for	plot of the
with more years	with > years		and	each X value	residuals
of teaching	of teaching		correlations	3.Residuals	3.Visual
experience?	experience.			equal	inspection
				variance	of a
				for each	scattergram
				X value	
				4.Linearity	4.Visual
					inspection
					of a
					scattergram
6.Are on-task	On-task rates	Student	t-tests	1.Interval or	1.Examine the

rates > for	are higher for	on-task	for	Ratio data	instrument
students who	students who	rates	depend.	2.Residual	2.Examine a
had teachers	had teachers		samples	normality	plot of the
with a greater	with a >		and	for each	residuals
number of	number of		correlations	X value	
successfully	graduate			3.Residuals	3.Visual
completed	credits			equal	inspection
graduate	successfully			variance	of a
credits?	completed.			for each	scattergram
				4.Linearity	4.Visual
					inspection
					of a
					scattergram

Student intervention outcomes also include an intended correlation between increases in teacher treatment implementation rates and student increases in time on task rates and percentages, as stated in hypothesis two and as evidenced through time sampling and time on-task observations across all six research questions. Although this is not a specific research question, it has been included in the second hypothesis.

The intent of this research is to build upon the current research demonstrating that scripting and consultation are successful strategies for increasing treatment integrity within the context of teacher implemented interventions. Preliminary research indicating that the contingency of possible additional consultation sessions as a result of low implementation rates may serve as a viable and supplemental technique for school psychologists and other interventionists thus serving to increase implementation rates and treatment integrity. The primary goals of this research project, stated within the research questions and hypotheses, was to determine if the use of intervention scripting, intervention consultation, and a voluntary, enhanced consultation technique, impacts and has a correlation with treatment integrity rates in the application of a self-monitoring intervention used to increase student on-task rates during direct classroom instruction.

Task Table

This research project utilized correlational research methodologies in the form of dependent sample t-tests and correlations to investigate the relationships between intervention treatment integrity rates and the impacts of the use of scripted intervention checklists and intervention

consultation. Dependent sample t-tests and correlational research methodologies were also to be utilized to determine the impacts of the two enhanced consultation sessions designed to increase teacher compliance with intervention steps and eliminate any misunderstanding about the intervention steps to be applied.

Table 2 is the study Task Table which is depicted below including a brief description of each task/procedure, the beginning and end dates, as well as the individuals involved with each task which further summarizes the data collection process.

Table 2

Treatment Integrity Project Task Table

#	Name	Description	Begin	End	Person
1	Research Idea	Presented to Superintendent and School Board, designed an intervention to increase student on-task behavior and treatment integrity rates	10-06	12-06	Dissertation Chairperson, IST Teacher, School Board, Superintendent, Researcher
2	Refine Study	Review treatment integrity research and on-task interventions, identify instrumentation, meet with integral school staff, IRB review chapter revision/extension	2-07	5-08	Dissertation Chairperson, IST Teacher, IST Aides, IRB, Researcher
3	Student Identification	Identify sample and participants (Student Selection for Participation Matrix - Appendix A, send Informed Consent Forms)	8-08	9-08	IST Teacher, IST Aides, Consultants, Parents Researcher
4	Intervention Implementation	Proceed with intervention phases A through D according to the Intervention Script using Appendix Forms E through H in "Instruments Utilized" section	11-08	3-09	2 nd - 6 th Grade Teachers, IST Teacher, IST Aides, Selected Students
5	Scoring and	Review rates of treatment	4-09	9-08	Dissertation

	Entry	integrity and student on-task behavior rates, compare baseline to intervention rates, statistically analyze data			Chairperson, IST Teacher, Statistician, Researcher
6	Final Report Review	Meet with all parties to review results and outcomes, defend dissertation	10-09	11-09	Dissertation Committee, Superintendent, IST Teacher, IST Aides, Researcher
7	Report Presentation	Present the final report and results to the School Board	12-09	12-09	Superintendent, School Board, Researcher

Definition of Terms

In this section, terms, tools, and procedures are defined according to their use in contemporary research terms, but more importantly how each one was used and included in the research project. These definitions will assist the reader in understanding how this project was designed as well as the theory underlying the procedures and methods later discussed in Chapter III.

Instructional Support Team: Instructional Support Teams in Pennsylvania identify effective instructional approaches for students prior to referral for special education and support students with disabilities in regular education settings. Pennsylvania State Special Education Regulations and Standards require the IST process for grades K-6.

On-Task Behavior: On-task behavior is defined as attention that is apparent in students' overt behavior. The importance of on-task behavior of students is underscored by the fact that abundant research has demonstrated that attention to task/on-task behavior is highly correlated with achievement. In other words, attention is a prerequisite to academic achievement and academic success. On-task behavior can be monitored through systematic observation using a time sampling method. Thus, on-task behavior is both observable and measurable.

Performance Feedback: Performance feedback has been defined as a method of providing information or knowledge of processes and results to promote learning and maintenance of skills and behaviors. Performance feedback may be provided in a variety of formats

including: public posting of results, written performance feedback, demonstrations, verbal feedback on-the-job, and the manipulation of negative and positive reinforcers. When treatment integrity of an intervention is low, a cognitive-behavioral approach to utilizing performance feedback is the use of additional consultation sessions which has most recently been attempted within the contemporary research base and will be utilized in this research project.

Prereferral Intervention: Prereferral intervention is a consultation-based service with the potential to decrease the number of students referred and ultimately placed in special education programs.

Prereferral intervention occurs prior to a student's formal referral for special education services and/or a special education evaluation. Prereferral intervention is an extremely critical time and can produce valuable results and data relevant to the decision-making process regarding eligibility for special education services.

Scripting: Scripting is defined as systematically and operationally defining and writing steps to follow in applying a given intervention. Scripted interventions give rise to productive and effective consultation sessions and enlist a protocol for following intervention steps which leads to increases in treatment integrity and intervention effectiveness. It has been demonstrated that intervention scripts be written in everyday language that is acceptable to the teacher. The scripted steps of the intervention should be written in simple, operational terms and the consultant should encourage the teacher to implement these steps precisely with accurate recording of the steps that they implemented successfully.

Scripting is particularly conducive for treatment integrity monitoring and assessment because the scripts themselves lend themselves as an evaluative tool for consultants and observers to systematically assess the degree to which the steps of the selected intervention are being implemented as intended according to intervention protocol. Scripted multi-step checklists included as part of interventions lend themselves as an intervention implementation guide, a self-report tool/checklist, and a consultant observation tool/checklist. Scripted checklists also act as a permanent product that facilitate and ultimately lead to meaningful, factual-oriented consultation meetings and discussion between the teacher and consultant.

Self-Awareness Theory: The mere introspection and nature of self-evaluation in terms of focusing one's attention on his or her own behavior produces the likelihood of accurate self-monitoring and self-evaluation as well as increased accuracy related to prediction of future behaviors. This premise as well as individuals' efforts to be personally and behaviorally consistent is best defined within self-awareness theory (Pryor, Gibbons, Wicklund, 1976). Thus, it is important that on-task behavior questions when self-monitoring using a recording form must be stated clearly and simply. This increases the likelihood that there will be a direct connection for students between their actual on-task behavior and the recording of their on-task behavior.

Self-Monitoring: A type of intervention that has been particularly successful as an on-task intervention that requires attention to

definition is self-monitoring. Self-monitoring interventions have been very helpful in assisting students to self-evaluate their ability to focus, and consequently make conscious efforts to improve their on-task behavior. Self-monitoring is further defined as an individual assessing whether or not a targeted behavior has occurred and then recording the result, in this case being on-task behavior. More specifically, self-monitoring of attention (SMA), involving teaching students to self-assess whether or not they are paying attention and to self-record the results when told to do so, is a common strategy within the self-monitoring research base. Self-monitoring interventions have resulted in student increases in self-regulation and behavioral reactivity at the very least, and increases in academic task completion and skill acquisition at best. Self-monitoring is a desirable selection as an intervention for increasing students on-task behavior at the prereferral level of intervention. Prior research in this area has revealed that the effects of self-monitoring on on-task behaviors are quite robust and have been demonstrated across differing age levels and instructional settings. A more extensive meta-analysis of similar self-monitoring studies will be provided in Chapter II. Most importantly, related to this research project it is important to note that previous research has indicated positive effects of self-monitoring as demonstrated across age levels and instructional settings with particular value for those students ages 7 through 11.

Self-monitoring checklists: Self-monitoring checklists are used by students to self-monitor a variety of behaviors as stated above.

Related to this research project, self-monitoring in the form of questions that students ask themselves and then record their behaviors in conjunction with a teacher rating of these students on the identical questions has been determined as an effective methodology for increasing student on-task behavior as well as self-awareness. A consistent finding has been that the use of self-monitoring checklists helps students to respond correctly and consistently and the power of this type of intervention is further increased with a corresponding incentive or reward system. An additional strength of self-monitoring interventions is that this type of intervention is both easy to implement and easy to fade.

Systematic Observation: Systematic observation, by definition, involves the following criteria and guidelines: observations should be conducted by individuals trained and knowledgeable with the intervention protocol, should be conducted by individuals trained in utilizing the observation tool and familiar with time sampling methods, should be based on objective definitions of on-task and off-task behavior, should adhere to a structured schedule, and should permit comparisons with standards for determining whether additional intervention is necessary. Lloyd & Loper (1986) have developed a simple, systematic time sampling observation protocol for assessing on-task behavior that enables the observation of four individual students in one classroom.

Treatment Integrity: Treatment integrity is broadly defined as the degree to which a treatment is implemented as planned. Treatment integrity is similarly defined as a measure of how accurately a

treatment is carried out. Furthermore, treatment integrity is concerned with the accuracy and consistency with which independent variables constituting the treatment are implemented. One of the primary goals of this research project was to demonstrate that when interventions are implemented without the presence of a treatment integrity monitoring component to assess correct application of the intervention steps, treatment integrity rates were quite low resulting in decreased positive outcomes for students. In addition, when treatment integrity rates are low, incorrect conclusions may be made regarding the student problem and response to the intervention. This scenario may lead to additional problems in that a student may be inappropriately referred for further intervention or evaluation for special education services. Additionally, one of the underlying components of treatment integrity as it relates to intervention application is that treatment integrity monitoring enables one to demonstrate that changes in the dependent variable, such as increases in student on-task behavior rates, are related to systematic, manipulated changes in the independent variable and are not due to other extraneous variables. Similarly, Yeaton and Sechrest (1981) defined treatment integrity as the degree to which treatment is delivered as intended. When treatment integrity rates are low in the application of an intervention, the internal validity of the intervention itself is seriously compromised. Treatment integrity may be affected by a number of variables including: the complexity of the treatments/intervention, the time required to implement interventions, the materials and/or resources required, the number of

agents or measured variables, the perceived and actual effectiveness of the intervention, and motivation of those involved in the intervention.

Treatment Integrity Assessment: Lentz and Allen (1996) provide rationale for assessing treatment integrity being to verify that the intervention actually was implemented and so that more efficient and effective interventions may be developed. Several methods are recommended for assessing treatment integrity such as providing copies of intervention procedures written in operational terms such as in script and checklist formats, utilizing intervention managers and consultants to review the application of the intervention, monitoring through direct observation and self-reports, providing constructive feedback related to intervention procedures, and providing feedback to maintain teacher morale and to problem-solve. Scripted checklists were used in this research project for treatment integrity assessment.

Limitations

There are several limitations to consider within the context of this research project related to outcomes and results. The purpose of this section is to identify the existing limitations that were both accounted and unaccounted for within this research project as well as general limitations that are found within this type of correlational research. Some of these limitations are further discussed in Chapter IV under the methodological limitations section. All possible efforts have been made to reduce the number of limitations as well as threats to internal and external validity. However, it was not possible to remove all limitations

and external variables beyond this researcher's control.

First, there are several factors that influence treatment integrity such as intervention complexity, implementation time required, materials required, number of personnel involved, perceived and actual effectiveness, and the motivation of treatment agents or teachers (Gresham, 1998). Attempts to limit the negative impact of these factors have been made by selecting a simple, concise intervention, limiting the time required by teachers to implement the intervention, and by providing motivation to increase treatment integrity through the use of additional, enhanced consultation techniques. One specific limitation was the fact that numerous teachers and students were involved in the intervention process, so it was imperative that strict use of the scripting designed for the intervention was adhered to.

Second, it is important to note that treatment integrity is necessary, but not sufficient, for the demonstration of functional relationships between experimenter-manipulated independent variables and dependent variables. The intervention may be implemented with acceptable treatment integrity, yet demonstrate no functional relationship with the dependent variable being student on-task behavior rates. In other words, it may be possible to make determinations related to correlations of variables, but not cause and effect statements and conclusions.

The third limitation noted in the research base is two-fold. The number of observation sessions must be significant and there may be reactivity to an observer being present in terms of applying an intervention. This research project involved numerous observations, so it was anticipated that the student and teacher being observed would become

somewhat desensitized to the presence of an observer in the classroom. This may have in turn reduced the degree of reactivity to an observer in the classroom. In conjunction with this limitation, inter-rater reliability was a concern as even with training observers may have at least some unintended variations in their use of the observation protocol. Thought was given to attempting rotations of the observers across classrooms to increase inter-rater reliability, however additional time and training would have been needed to make this a reality. Additionally, to offset the construct of reactivity to the observer, at the suggestion of Gresham, Gansle, and Noell (1993), teachers were not fully aware of the purpose of the research regarding treatment integrity at least at the outset of the intervention implementation.

Fourth, within the context of the on-task intervention itself, one relevant limitation is the fact that the self-monitoring questions were asked by the student after the instructional component, and not at times throughout the instruction. The result was that the student had little opportunity to correct an off-task behavior during the instructional time, and was not able personally assess their behavior until after the instruction has occurred. Additional variables that were not controlled during the intervention included the type of instruction such as reading, math, or another subject, the duration of the instruction, or the type of instructional methods used by the teacher and thus instruction varied significantly between verbal, auditory, tactile-kinesthetic, and multi-sensory instruction.

Fifth, an important limitation of this research is that the way in which the data was collected did not enable this researcher to

determine with any degree of confidence "the degree to which a teacher can deviate from the treatment protocol and still achieve desired results and positive student outcomes" (Mortenson & Witt, 1998, p.625). In other words, the relationship between treatment integrity and treatment efficacy was not able to be fully assessed.

The sixth limitation that has been documented in the literature base involving treatment integrity that applies to this intervention is the fact that it was also difficult to determine whether enhanced consultation sessions to be used with the teacher, consultation, scripting, or the self-monitoring checklist had the greatest impact on treatment/intervention outcomes. The primary reason for this is that these treatments were combined at various points in the research. It would be possible to determine whether the enhanced consultation sessions had an impact on the treatment outcome as this involved a separate phase of the study. The degree of this impact was more difficult to determine again because consultation, scripting, and the self-monitoring checklist were already be implemented. Additional research will need to be conducted to determine how performance feedback functions separately from other aspects mentioned above. However, determining the function and degree of impact of performance feedback in the form of the enhanced consultation sessions would assist in the understanding of antecedents and consequences of target behaviors such as on-task/off-task, and also increase the likelihood that prereferral interventions function effectively.

Seventh, a more minor limitation within the domain of scripting and developing the script for this intervention is the fact that intervention scripts and scripted intervention step checklists tend to be more effective

when the teacher and consultant develop the script collaboratively. However, within the context of this intervention, it was not reasonable to proceed in this manner as validity and reliability would have been seriously compromised if teachers were using varied scripts for the intervention. Thus, a standard ten-step script corresponding with the step checklist for both the observer/consultant and teacher to complete was the chosen method for applying scripting to this intervention.

The eighth limiting factor of this research was the fact that only 50 students were selected for this intervention as the population base, and they were only representative of elementary students grades two through six a rural school district. Thus, no statements or conclusions were able to be made involving urban school districts or students below or above these grade levels.

Another limitation of this research is that if teachers are aware of or perceive that students' on-task behaviors are not improving, they may become discouraged or less committed to the successful implementation of the intervention for the duration of the intervention. In this study, this was especially the concern case with teachers that did not implement the intervention as stated within weeks one and two before entering into the third week in which the scripted intervention step checklist was used.

In terms of self-monitoring itself, again, consideration must be given to the fact that students participating in the intervention did not have an opportunity to self-evaluate and self-rate their on-task behavior until after the instructional period. This is problematic or a potential limitation by the mere fact that self-awareness may not be sufficient during the instruction, thus leading to lessened effects of self-

monitoring. However, to interrupt instruction several times to have the student complete the self-monitoring questions and to have the teacher rate the student on these same questions was determined to not be practical.

Last, as a final limitation, Bahr indicated in his research that "the quality of prerefferal intervention may vary between buildings within a given school district" (1994, p.309). Given this fact, consideration was given to this possibility. Although the administrative style, dynamics, teachers, and curriculum content varied to some degree between these four elementary buildings in this research project, some variability was reduced as the Instructional Support Team teacher and consultants were consistent in their roles across all four elementary buildings. Thus, it was thought that more consistency occurred in this study as compared to previous research within the contemporary research base. As a result, the variability between elementary buildings in terms of staff participating in this research was reduced by individuals providing intervention consultation, collecting observational data, and conducting the teacher student observations.

Summary

The research cited and discussed in this chapter emphasizes the importance of treatment integrity monitoring in the implementation of prereferral interventions. Previous research findings support the fact that in order for interventions to be successful they must be implemented as designed and intended. Use of scripted intervention steps and checklists coupled with intervention consultation assist teachers in delivering interventions to their students with high levels of treatment integrity. The impact of a scripted student self-monitoring intervention to increase

student on-task behavior in combination with intervention scripting, consultation as well as enhanced consultation sessions when needed if treatment integrity rates were below 98% in an attempt to increase treatment integrity rates were investigated within the context of this research project. The research questions, hypotheses, research map, timelines, and the limitations present within this type of research were introduced.

CHAPTER II

LITERATURE REVIEW

Introduction

The purpose of this chapter is to present, review, and discuss the literature stressing the importance of treatment integrity measurement, the value of intervention scripting and consultation coupled with interventions, as well as relevant on-task behavioral interventions. Performance feedback is also discussed as it relates to intervention effectiveness and positive intervention outcomes. When treatment integrity is not accounted for or monitored systematically, many would be effective interventions appear to have less than desirable outcomes. The monitoring and assessment of treatment integrity at the prereferral intervention level is strongly correlated with positive intervention outcomes when working with students through a variety of behavior interventions including on-task behavioral interventions as reported by Gresham, Gansle, Noell, Cohen, and Rosenblum (1993).

Value of Treatment Integrity

The value of treatment integrity in the application of prereferral interventions cannot be underscored enough. However, the research base indicates that treatment integrity is not routinely evaluated or monitored. In many cases, it is incorrectly assumed that treatment integrity rates are high. However, when efforts have been made to monitor and increase treatment integrity rates, both treatment integrity rates and effectiveness of interventions have improved. Teacher self-monitoring of treatment integrity has not been a sufficient intervention for increasing treatment integrity especially in the absence of direct observations

according to Wickstrom, Jones, LaFleur, and Witt (1998). In fact, Wickstrom, Jones, LaFleur, and Witt (1998) found that "although 33 teachers in their study reported high levels of treatment and intervention integrity in implementing behavioral interventions, direct observation indicated implementation with less than 10% integrity."

Some specific problems within the context of prereferral interventions involving low treatment integrity are: that interventions are many times subjectively selected without proper identification and definition of the behavior of concern, and that interventions often are vague and the steps are not operationally defined for those implementing the interventions. Additionally, student performance is often monitored in the absence of treatment integrity monitoring, external variables effecting intervention outcome are often not accounted for, and as a result many interventions that should be effective given the present research base are not producing effective outcomes for students that have been referred. In essence, when interventions are compromised or not implemented with integrity, it becomes difficult to ascertain the impact of intervention plans, and it is not possible to determine whether the intervention design was ineffective, whether the intervention was not appropriate for the target behavior, or whether the intervention suffered from poor treatment integrity.

A pilot study involving on-task behavior and work completion intervention completed by this researcher in 2000 indicated the value of treatment integrity as it related to the implementation of prereferral interventions. The pilot study involved four brief case studies in which treatment integrity increased student on-task behavior rates and student

work completion in two out of the four cases. This 50% increase is slightly less than other researchers have demonstrated. It is likely that inconsistent completion of the teacher self-monitoring intervention step checklist led to the less than expected outcomes in this pilot study.

Other researchers have provided more impressive results related to the importance of treatment integrity monitoring over the past 15 to 20 years. For instance, Noell and Witt (1997) indicated that 46 studies from original review showed that 11 were coded as assessing consultation implementation (24%). Of these 11 studies, three provided data reflecting the accuracy of treatment implementation based on direct observation at a rate of 6.5%." Most interestingly treatment integrity has been shown to significantly increase with the presence of an observer of the actual intervention implementation. Without observation and observational feedback, Jones, Wickstrom, and Friman (1997) demonstrated that intervention integrity ranged from 0% to 11% in the context of case studies. In the presence of observations and observational feedback, treatment integrity increased to an average of 70%. Obviously, this demonstrated significant gains in treatment integrity which also is indicative of intervention success for students. An additional study conducted by Witt, Noell, LaFleur, and Mortenson (1997) indicated significant gains with the use of treatment integrity monitoring ranging from 42% successful intervention implementation to 94%.

These results indicate that treatment integrity typically can be significantly increased through a variety of methods, but that consultation and direct observation of the implementation of the intervention are most effective. Additionally, increases in treatment integrity typically result

in more positive outcomes for the students who the intervention is intended if the intervention has been selected appropriately to address the targeted behavior or behavior of interest.

Unfortunately, despite strong evidence supporting the monitoring of treatment integrity, treatment integrity has been largely neglected and ignored in both research and practice according to researchers such as Gresham, Witt, Noell, LaFleur, Gansle, and Telzrow (2000) among others. All of these researchers have concluded that if the accuracy of an intervention is not assessed, it is difficult to determine whether or not the intervention actually produces change in terms of student outcomes. Lane, Bocian, MacMillan, and Gresham (2004), consistent with other researchers in the treatment integrity area, reported that the following factors increase the difficulty of measuring treatment integrity and the likelihood that treatment integrity will not be measured or assessed properly: complexity of the intervention, time commitments, materials, perceived effectiveness of the selected intervention, and motivation of the teacher or implementor. Given that school-based interventions can be costly and do require time from teachers who are already overwhelmed with a multitude of responsibilities, it is essential that treatment integrity be systematically assessed within the context of interventions so that valuable time and resources are not lost as well as the potential positive outcomes for children are not negated. More simply stated, the lack of treatment integrity monitoring prevents us from learning about functional relationships between independent and dependent variables thus compromising the experimental validity and entire nature of a selected intervention.

Related to the actual practice of prereferral interventions in combination with treatment effectiveness and treatment integrity, research indicates that "school psychologists must serve as evaluators of treatment integrity related to prereferral interventions to assist in improving prereferral practices and intervention outcomes" (Bahr, 1994). Within the context of this research, directors of special education were asked to assess or give their opinion as to whether prereferral interventions were effective in their school district. Results indicated that answers from the directors typically included "sometimes" and "no basis for determination." However, the directors did agree that treatment integrity was one of the four major components necessary within the prereferral process to determine intervention effectiveness. Coupled with the fact the directors of special education have agreed that treatment integrity was an integral component of intervention effectiveness, students and families have the right to expect that academic and behavioral interventions will be implemented as intended and with precision and accuracy (Brown-Chisday & Steege, 2005). Thus treatment integrity is important to a variety of stakeholders being students, families, school psychologists, and special education directors, as well as those that develop and provide interventions as the prereferral level of intervention.

Additional areas of research related to treatment integrity involve further evaluation and interpretation of the impact of treatment integrity. For instance, a minimally researched area involves the measurement of how far a treatment can deviate from the precise protocol before negative impacts are realized. For example, in the case of this research involving a ten-step intervention, could a teacher skip or incorrectly implement two,

three, four, or five steps before the intervention outcome for the students is adversely impacted? Also, to what extent would this have an adverse impact on the intervention? Further research also needs to be conducted in regards to reactivity to the observers of treatment integrity by those implementing the intervention, and how many observations should be conducted to reliably and validly assess treatment implementation integrity rates.

In summary, several researchers have stressed the importance of measuring treatment integrity, or the degree to which an intervention or treatment is implemented as intended. Numerous reasons are provided for measuring treatment integrity rates within the context of prereferral interventions, with the strongest arguments being made related to demonstrated increases in intervention success for students. Direct observation of treatment integrity within the context of intervention has demonstrated that direct observation serves as a definitively productive method for increasing accurate intervention implementation. Consultation is another method for increasing treatment integrity rates as discussed later in this chapter. Additional research is needed to determine the amount of impact that direct observation and consultation have on treatment integrity and how far one may deviate from the intervention protocol before adverse student outcomes are realized. Further evidence for measuring treatment integrity is provided in the next section of this chapter.

Review of Current Treatment Integrity Studies

Treatment integrity is one of the most important components of scientific investigation and of practical application of interventions in school settings. Unless changes in the dependent variable of an

intervention can be determined to occur due to manipulated changes in the dependent variable, then the reality may exist that there are numerous threats to internal and external validity of the intervention. Additionally, when treatment integrity measurement is absent or when treatment integrity rates are assessed as being low, it is difficult to determine whether an intervention is ineffective because of weak matching between the target behavior and selected intervention or whether the intervention is an effective match but simply ineffectively applied. Thus, "a fundamental principle of intervention research, particularly with behaviorally-based interventions, is the demonstration that changes in behavior are functionally related to manipulated changes in the environment" (Gresham, Gansle, Noell, Cohen, and Rosenblum, 1993, p.254).

In Gresham, Gansle, Noell, Cohen, and Rosenblum's (1993) meta-analysis of treatment integrity of school-based behavioral intervention studies from 1980 to 1990, 181 experimental studies in seven journals known for behaviorally-based interventions were reviewed. Their analysis of these studies focused on whether or not treatment integrity was assessed, the degree of treatment integrity, operational definitions of treatments, and effect sizes produced by these interventions.

In summarizing the findings of this meta-analysis, only 14.4% or 26 out of the 181 studies, systematically measured and reported integrity data; only 35% or 64 of the 181 studies operationally defined treatments. It was also indicated that moderate positive correlations were found between degree of treatment integrity and level of treatment outcome. Earlier research completed by Peterson (1982) reviewed all studies published between 1968 and 1980 in the Journal of Applied Behavior Analysis

and revealed that only 20% of the 539 studies reported data on the integrity of interventions as well as over 16% of the studies did not provide an operational definition of the independent variable. There was also inconsistency of reporting treatment integrity within the reviewed case studies was present. For example, only 10% of the studies claimed that treatment integrity was monitored, by then failed to provide empirical evidence regarding the level of treatment integrity. The results of these numerous studies indicate both that treatment integrity is not measured in many studies, and that there is a significant need to measure treatment integrity as well as to operationally define the treatment aspect of an intervention.

More contemporary research in the area of treatment integrity involving meta-analysis has been conducted by McIntyre, Gresham, DiGennaro, and Reed (2007), in which these authors reviewed 142 intervention articles published in the Journal of Applied Behavior Analysis revealing that although 95% of the studies provided an operational definition of the independent or measured variable, only 30% provided treatment integrity data. Additionally, almost half of these studies, or 45%, were judged to be at high risk for treatment inaccuracies. In sum, research over the past 30 to 40 years on treatment integrity rates has shown that measurement of treatment integrity rates in the context of applied interventions has increased but not sufficiently.

Gresham, Gansle, Noell, Cohen, and Rosenblum (1993) concluded that treatment integrity does matter in the design, implementation, and outcome of school-based interventions. The assessment of treatment integrity enables interventions to be replicated, contributes to more

effective prereferral interventions, enables links to be made between the use and effectiveness of school-based interventions, and contributes to the scientific understanding, interpretation, and implementation of interventions. Within this meta-analysis, regardless of how treatment integrity was measured, the rate of treatment integrity had a moderate correlation and impact on the magnitude of treatment outcome. In essence, the higher the rate or degree of treatment integrity, the greater the degree of behavior change and measurable positive student outcome/effect.

Finally, Gresham, Gansle, Noell, Cohen, and Rosenblum (1993) made several recommendations related to school-based interventions and treatment integrity research. It is important to adhere to the following recommendations because interventions implemented with poor treatment integrity lead school psychologists and prereferral teams to draw inaccurate conclusions about the selection and effectiveness of selected interventions, as well as utilize valuable time and resources in an ineffective manner. First, the specific components of an intervention should be operationally defined and measured congruent with the definitions. Second, each component or step of an intervention should be measured by direct observation using an occurrence/nonoccurrence observation code. Third, treatment integrity should be measured both on a day to day basis as well as for the entire intervention period as an average. Fourth, alternative methods of measuring treatment integrity should occur such as through self-reports and behavior rating scales. Fifth, school districts should require the measurement of treatment integrity in the prereferral intervention process.

Scripting

Given the importance of previously discussed treatment integrity within the context of school-based prereferral interventions, and the fact that direct observation and treatment integrity monitoring have moderate positive effects on increasing the effectiveness and outcomes of interventions, it is necessary to explore additional methods for increasing treatment integrity rates. Two additional methods for increasing treatment integrity rates have been documented within the current research base including the use of scripting in combination with self-monitoring/self-rating checklists, and intervention consultative strategies. Scripted interventions have been classified as an effective assessment technology enabling the measurement of treatment integrity rates across treatment agents, situations, settings, and time. Within this section, scripted intervention checklists will be discussed and as well as their efficacy in increasing treatment integrity.

Scripts are broadly defined as agreed upon written intervention steps by Ehrhardt (1996) in this case utilized to increase the likelihood of intervention steps being followed and consequently treatment integrity rates being increased. Scripts should be written in everyday, operational terms and be written identically for both the teacher and consultant so that direct observation of treatment implementation and integrity may occur. Consultation should be utilized to discuss the comparison of teacher scripted checklists and the consultant scripted checklists.

Scripted intervention checklists are likely to increase student success, lessen teacher frustrations, increase the accurate monitoring of intervention outcomes, and increase the understanding of student

difficulties and strengths. A meta-analysis that was conducted evaluated the effects of performance feedback and treatment integrity packages including scripts on actual measured treatment integrity and found that "mean levels of treatment integrity during baseline phase ranged from 9% to 37% and increased with the use of performance feedback and scripting to a range of 60% to 83%" (Jones, Wickstrom and Friman, 1997, p.316). In essence, treatment integrity rates increased through these methods to a nearly acceptable level of 70% to 80% successful implementation as documented in the current research base. Scripted intervention steps for increasing treatment integrity include describing the purpose and process of treatment integrity to the teacher, developing a tracking/monitoring tool such as a scripted checklist, development of a student monitoring form related to the student performance on the targeted behavior or behavior of interest, gathering baseline data prior to the intervention implementation, implementing the scripted intervention, consulting with the teacher related to difficulties with the intervention and the treatment integrity rates, implementing additional strategies for increasing treatment integrity, such as negative reinforcement in this research project, and then returning to baseline. The research that was conducted in this study included all of the aforementioned steps.

Added benefits of scripted intervention checklists are based on the premise that scripted interventions within the research base have been shown to be highly effective in dealing with both student academic and behavioral difficulties. Scripts can be easily used in the regular classroom setting without being overly disruptive or time consuming, they can be used as both self-monitoring and direct observation tools, and they

are easily monitored for effectiveness as an empirically-based model. Furthermore, scripts provide both structure and a stable format for dealing with students in stressful situations involving behavior difficulties, both teachers and parents have found pre-developed scripts to be acceptable throughout intervention implementation processes, and scripts are conducive to removal as the students improve. Baseline data can be collected in a more accurate manner than with some other more complex and cumbersome intervention strategies.

Further research has indicated that script acceptability (Ehrhardt, 1996) may be relevant in further increasing treatment integrity rates by exploring areas such as the ease with which the script is implemented, how the script addresses the student's targeted behavior, the time involved in utilizing the script, and the teacher's impression of how scripts would work for them with other interventions. This line of questioning and exploration has not been included as part of my research, as the focus will remain on the script utilization, consultation processes, and the use of enhanced consultation as needed and previously described. In generally addressing the issue of script acceptability, the ten-step scripted intervention checklist that was employed in this research project adhered to Coyne and Gottlieb's (1996) premise that checklists and self-reports should be kept simple yet operational in terms of the specific steps of the intervention that are being simultaneously implemented and monitored.

Furthermore, Gresham (1989) provides several examples of self-report integrity assessments that can be utilized simultaneously as scripted intervention checklists, direct observation consultation checklists, and teacher self-report/self-rating forms. Scripts and self-

rating protocols and checklists such as these facilitate the intervention implementation process, enable consultants to validly measure treatment integrity, and encourage the use of follow-up consultation and corrective action when treatment integrity rates are low.

Intervention Consultation

Ensuring accurate intervention implementation to meet student needs is one of the primary goals of the consultation process. A second goal of consultation is aimed at creating teacher change which is also a measurable variable. Consultation is systematically defined by Noell and Witt (1999) as "interpersonal process variables or procedural variables involving interviews, observations, direct assessments in the context of interpersonal collaborative relationships directed at altering student and teacher behaviors" (p.30). Assessing the effectiveness of consultation related to intervention outcomes is extremely difficult to do in the absence of direct observation as self-report measures demonstrate low accuracy when compared to direct observational data. In other words, research has revealed lack of agreement between observed and teacher-reported levels of treatment integrity related to intervention implementation. Much research is still needed in order to determine the effectiveness that consultation alone has on the likelihood of interventions being implemented as intended.

One of the primary goals of consultation within the intervention framework is to ensure that interventions actually are delivered to and reach children as intended. Researchers such as Ehrhardt, Barnett, Lentz, Stollar, and Reifin (1996) indicate that scripted interventions presented in consultative format reduce problem behaviors in the academic setting

with children. They recommend that treatment integrity be directly evaluated and that single case designs be used to evaluate consultation. They further recommend that within the context of school-based interventions and a consultative framework four criteria should be considered including: effectiveness of the intervention in promoting change in target behaviors, treatment integrity, social validity such as considering the importance of goals and procedures, and treatment acceptability involving the appropriateness, fairness, reasonability, intrusiveness, and normalcy of the intervention. Thus, investigating and discussing variables such as acceptability and treatment effectiveness within the consultation process is essential.

Although consultation can be somewhat time consuming with certain interventions, research conducted by Witt (1991) strongly indicates that teachers view consultation positively when it is conducted appropriately. In some cases, however, effective interventions are rejected by teachers because they are viewed as unacceptable, time-consuming, or impractical. In other words, it is wise for intervention and prereferral teams to communicate and consult with teachers within a cost-benefit framework. One of the most significant concerns of teachers selected to implement interventions is the cost of time related to developing, consulting, implementing, and evaluating a given intervention. In fact, Happe (1982) revealed that 87% of respondents involved in consultation and intervention implementation reported that lack of time was the most common reason reported by teachers for failing to implement an intervention or treatment plan for a given student. Lesser considered subjective costs of consultation and implementation of interventions include: taking time away

from preferred activities, possible embarrassment of teacher or student, and possible disruptions to the classroom's daily routine.

The theory of functional outcome analysis which involves cost-benefit analysis presented by Noell and Gresham (1993) is associated with the issue of classroom resources in that the following traditional consultation goals are adhered to: producing outcomes that meaningfully improve the quality of instruction in classrooms, increasing students' behavioral resources directed towards adaptive behaviors and learning, facilitating teacher acquisition of new instructional and behavior management skills, and facilitating changes in teacher behavior which in turn produces changes in student behaviors. The consultation within this research project was designed to meet these goals in that teacher change in how teachers deal with student off-task behavior is one of the primary goals. Teaching and enabling students to self-monitor their on-task behavior with teacher feedback effectively leads to both positive student and teacher change as discussed in the self-monitoring/on-task behavior intervention section.

Consideration to objective and subjective benefits of consultation and effective intervention implementation also exist. Through a review of numerous interventions, objective intervention benefits include: increases in time devoted to enjoyable activities, increased time on-task, teacher praise, and improved grades to list a few. Subjective intervention benefits may include: the teacher feeling a sense of accomplishment, empowerment, reduced stress, increased self-esteem, increased confidence in dealing with students' challenging behaviors, and increased self-efficacy. In implementing prereferral interventions, it is imperative that consideration be given to costs and benefits associated with an intervention, and that

interventions be selected that are appropriate to both address target behaviors as well as provide the likelihood of a positive outcomes for students and teachers.

Related to the issue of collaborative consultation in which interventions are developed collaboratively versus prescriptive consultation in which the intervention is provided to the teacher, present research reveals that within these two consultative frameworks teachers were equally likely to implement the intervention as intended with sufficient treatment integrity. The primary agent of change for increasing rates of treatment integrity is to consultatively complete direct observations as opposed to relying solely on teacher self-monitoring. The least effective method for increasing treatment integrity rates in the implementation of school-based interventions as discussed by several researchers is consultation alone without the presence of self-monitoring, direct observation, or a combination of the these two methods.

Thus, Gresham (1989) made several specific recommendations to assist in the facilitation of intervention implementation treatment integrity including: "that a written copy of the intervention be provided to the teacher and discussed in the consultation process, review the intervention steps and plan with the teacher at least periodically, and monitor the intervention implementation using direct observations and self-reports to measure integrity and to take corrective action if necessary" (p.48). Again, within the context of this research project, these specific suggestions have been followed with the addition performance feedback and additional enhanced consultation sessions as needed which is discussed in the last section of this literature review.

Wickstrom et al. (1998) provided problem analysis interview questions and objectives, some of which will be included in the consultation meetings within this research project including: defining the purpose of the meeting, discussion of the baseline data, determining the desired student performance level/percentage, discussing the rationale and steps of the intervention, selecting rewards and consequences for student success or lack thereof, scheduling dates to implement the phases/steps of the intervention, and arranging classroom observation times. Again, contemporary research literature has underscored the value of consultation that is systematically built into intervention implementation processes as a method for increasing both treatment integrity rates and positive student behavioral outcomes.

Interventions to Increase On-Task Behavior

A variety of variables are necessary for students to learn effectively in academic settings in general education programs. As many elementary classrooms have at least 20 and sometimes up to 30 students, the presence of these variables and constructs are valuable but not a necessity in order for students to learn. Such variables include student positive self-concept, a well-organized and presented curriculum, varied instructional strategies, motivation, attention to cognitive and learning styles, or the perceptual pathways by which children tend to learn being auditory, verbal, visual, and kinesthetic (Siegel, 1992). Attention to task or on-task behavior and effective interventions for children who are experiencing learning and behavioral difficulties need to be closely reviewed. Two very specific variables related to task completion are attention to task and meta-cognition or self-awareness related to an

individual's learning process. For example, numerous research studies have demonstrated a direct correlation between attention to task and achievement levels.

Related to attention to task or on-task behavior, the most effective and reliable methodology for identifying students experiencing difficulties with maintaining on-task behavior is through systematic observation. Direct observation is defined as an individual observing the delivery of an intervention plan, and thus checking for the presence or absence and accurate implementation of critical intervention components (Upah, 2008). Observations must follow certain guidelines including: "being conducted by a trained observer, being based on objective behavioral definitions of on-task and off-task behavior, adhere to a structured and consistent schedule, and permit comparisons with standards for deciding whether an intervention is warranted" (Lloyd and Loper, 1986, p.337).

Systematic observation can best be conducted through use of observation protocols which provide a specific operational definition of both on-task and off-task behaviors with examples of both. Students who are on-task less than 80% of the observed intervals are ideal candidates for on-task behavioral intervention. Regular classroom observational research has indicated that students are typically on-task between 75% and 90% of the time in regular education classrooms (Bryan, 1974).

Self-monitoring and self-recording of on-task behavior by the students themselves has served as an effective intervention in the research literature as illustrated by numerous authors and researchers including Heins, Lloyd, and Hallahan, (1986), Harris, (1986), and Gangestad and Snyder, (2000). It also has been determined that self-monitoring strategies

have been particularly effective with learning disabled students because natural cues are provided that potentially result in response strategies and self-initiated responding. Self-monitoring interventions to address academic difficulties, behavioral challenges, and low on-task behavior rates have been demonstrated as being even more effective when reinforcement, rewards, and feedback are provided. Gangestad and Snyder (2000) provide numerous theories hypothesizing the reasons for self-monitoring effectiveness and propose that specific personality traits contribute to higher rates of effective self-monitoring and improvement of academic and behavior difficulties. For instance, they hypothesize that high self-monitors are extrinsically motivated in essence to please others and the adults working with them. Stated in this context, it is probable that many students in fact, as a result of normal development, strive to please adults and thus will attempt to put forth their best effort in reporting their own behaviors accurately especially in the context of verbal praise and rewards for accurate self-monitoring.

Where self-monitoring strategies and interventions in some cases are viewed as being more developmentally appropriate for middle school and high school age students. Fowler (1986) implemented peer-monitoring and self-monitoring successfully for behaviorally challenged kindergarten students through the course of systematic intervention. Results of this study demonstrated significant behavioral improvement during the peer-monitoring process that were maintained during the self-monitoring phase of the intervention indicative of the fact that even very young students can effectively self-monitor when instructed consistently on how to self-monitor and when consistent rewards and/or verbal praise are provided.

In further examination of the area of self-monitoring as part of increasing on-task behavior rates, Gansle and McMahon (1997) conducted research involving an intervention targeting 49 elementary students in an effort to improve their classroom behaviors. Their research specifically targeted following protocol in an effort to increase treatment integrity as part of this intervention. They defined self-monitoring as a process involving two distinct processes being the ability to discriminate the absence or presence of a specific behavioral response and then accurately recording the response. They identified three independent variables within the self-monitoring process that facilitate effective self-monitoring including: the actual self-monitoring process, feedback and rewards, and the graphing of behavioral frequencies and responses. Additional variables that they found to be valuable contributors to intervention success included consultant training and teacher training. If any of these variables were ignored or not accounted for, the treatment outcome and efficacy of self-monitoring significantly decreased the effect size. One surprising finding, contrary to previous research in this area, was the fact that lower levels of treatment integrity in application of the self-monitoring intervention did not appear to adversely affect the efficacy of self-monitoring as an intervention.

As stated previously, the selected intervention in this research project was aimed at increasing on-task behavior thus requiring monitoring of attention. The assumption was that increases in on-task behavior and attention would likely result in improved academic performance. It was also assumed that although in many cases increases in on-task behavior rates would increase the amount of academic work completed this intended result

would not always be the case. Trieber and Lahey through their research revealed that improvement in attention variables does not necessarily result in concurrent positive effects on academic variables and students' observed on-task behavior. Additional research clearly needs to be conducted in this area to determine more precisely to what extent academic engagement and academic performance are correlated. Furthermore, Harris (1982) reported that self-monitoring of attention may have little effect if students do not know what to do with the time that they have gained by maintaining attention.

As indicated by Harris, Graham, Reid, McElroy, and Hamby (1994), one example of a question that has demonstrated efficacy of self-monitoring as an intervention by students is, "Was I thinking about what the teacher was saying?" Having students ask self-monitoring type questions is imperative as an important element of self-monitoring by enabling students to self-assess and evaluate their specific observable behaviors in written format. These authors proposed using a 45-second interval for students to ask themselves this question. One consideration is that is quite possible that a student who is maintaining acceptable focus and attention could be adversely affected by interrupting their focus and attention to answer self-monitoring questions. In fact, these researchers reported that self-monitoring must be minimally obtrusive, appropriate to the target behavior, and enjoyable to the student to ensure the likelihood that the self-monitoring of on-task behavior as an intervention has the greatest degree of effectiveness. Again, for these reasons, within this research project, the student self-monitoring questions were answered by the student and feedback/ratings provided by the teacher once the instructional lesson

concluded.

In summary of self-monitoring of on-task behavior interventions, self-monitoring for students with disabilities and without disabilities has proven benefits and positive outcomes. Self-monitoring interventions have resulted in student increases in self-regulation and behavioral reactivity at the very least, and increases in academic task completion and skill acquisition at best. Some research has supported a direct correlation between on-task behavior and academic performance, thus self-monitoring is a logical choice as an intervention for increasing students on-task behavior at the prereferral level of intervention. According to Reid (1996) "the effects of self-monitoring on on-task behaviors are robust, have been demonstrated across differing age levels and instructional settings, and have resulted in positive behavioral outcomes or behavioral reactivity in 22 out of 23 studies that were analyzed"(p.318). Additionally, self-monitoring may serve other purposes and functions such as improving task performance, monitoring progress, increasing engagement and involvement in classroom learning activities, increasing participation, and enabling independent performance.

Two other relevant factors are present within the self-monitoring of on-task behavior research base. First, there is current empirical support indicating that there are direct correlations between increases in student on-task behavior and teachers' perceptions of student teachableness. Second, self-monitoring has been shown to be effective in increasing on-task behavior rates of students in mainstreamed settings. This fact is quite relevant especially in light of recent legislation and legal rulings, such as the Gaskins case, mandating an increase in inclusionary practices

for both students at the prereferral level of intervention and students identified with disabilities participating in special education programming.

Performance Feedback Outcomes

Performance feedback has been shown to increase both the treatment integrity of teachers implementing prereferral interventions as well as produce positive results for students regarding on-task behavior. Consultation with teachers regarding their implementation of the intervention and specific feedback provided to students regarding their self-monitoring has resulted in positive outcomes as indicated within the current research base.

Noell, Witt, Gilbertson, Ranier, and Freeland (1997) conducted research indicating that without performance feedback teachers maintained adequate treatment integrity for two to four days at which point treatment integrity rates significantly decreased. At that point, daily performance feedback was provided by a consultant which improved treatment integrity. These authors provide substantiation of the value of the following three components for maintaining treatment integrity within the context of interventions being: assessment of treatment integrity, intervention for increasing treatment integrity such as performance feedback, and subsequent measurement and monitoring of the treatment outcomes.

Performance feedback provided to teachers during the course of an intervention has revealed positive effects as indicated by a variety of researchers and through various studies. For instance, Jones, Wickstrom, and Friman (1997) demonstrated through their research that treatment integrity for a school-based behavioral intervention ranged from 9% to 37%

in the absence of a performance feedback component. With teacher performance feedback provided, treatment integrity increased to a range of 60% to 83%. These results led the researchers to conclude that daily performance feedback appeared to have a more powerful effect on teacher behavior and intervention implementation than verbal instruction alone. They also provided some evidence that treatment and intervention acceptability may have an impact on treatment integrity rates as well. Mortenson and Witt (1998) researched weekly performance feedback as a method to increase treatment integrity rates related to prereferral academic interventions. Their research provided additional support that performance feedback increases accurate teacher implementation of prereferral interventions. In this study, treatment integrity increased in three out of four cases when performance feedback was provided to the teachers. Performance feedback consisted primarily of providing verbal praise to teachers when they delivered the intervention steps accurately and consistently. Additionally, performance feedback sessions that were productive in this study included: presenting teachers with data on the intervention usage and student academic performance, providing positive verbal feedback and praise for completed intervention steps, providing corrective feedback when necessary, addressing any questions or concerns, obtaining a verbal commitment from teachers to perform the intervention correctly, and prompting that the consultant would return in a week. It was unclear which feedback component being verbal, social, or visual was most directly related to teacher intervention implementation treatment integrity rate increases.

Research conducted by DiGennaro, Martens, McIntyre, and Lee

(2005) most recently revealed that negative reinforcement and aversive strategies are viable options for increasing teacher treatment integrity ratings. More specifically, within their study, teachers received daily written feedback related to their accuracy in implementing an intervention targeted at increasing student on-task behavior. If they were able to maintain high rates of treatment integrity, they were able to avoid meeting with a consultant to practice missed steps. Noell et al. (2000) attempted a different negative reinforcer or aversive strategy by discussing with teachers during consultation the fact the results of the implemented intervention would be shared with the parents at the upcoming parent-teacher conference thus encouraging teachers to put forth their best effort. Additionally, several authors have hypothesized that teacher behavior, like student behavior, is subject to contingencies of reinforcement. For example, conversely, consultation certainly can also be viewed positively by teachers and thus consideration of positive reinforcement contingencies is essential when developing and implementing student behavioral interventions. Overall, few studies have been conducted regarding the impacts of negative reinforcement and aversives on treatment integrity in the context of school-based interventions.

In terms of performance feedback for the students involved in this research project, daily meetings with the teacher to answer the four on-task behavior questions occurred. Students circled one of three faces indicating on-task all of the time, some of the time, or very little for each of the three questions. They received verbal praise when their responses indicated all of the time or when their ratings were the same as the teacher rating. Thus, performance feedback was provided in written

format, and the students also received positive reinforcement through verbal praise. This is consistent with Kutsik, Gutkin, and Witt's (1991) conclusions that teachers and students both prefer positive reinforcement-based interventions as opposed to negative or reductive methods particularly when the intervention is being used to address behavioral issues. This is also consistent with Noell et al.'s research regarding performance feedback. Additionally, Noell's research is consistent with Witt's (1997) findings who found that performance feedback is effective in increasing intervention implementation integrity by general education teachers. Noell et al. (1997) also indicated that substantial initial training of teachers related to the intervention did not appear to be necessary for performance feedback to be effective, and weekly performance feedback was not nearly as effective as daily performance feedback. Additionally, as performance feedback is thinned, reduced, and ultimately eliminated, treatment integrity rates generally continue to remain high. Additionally, a hierarchical relationship where the consultant is of administrative standing in the educational setting was not necessary for performance feedback to be successful.

Some additional factors to consider in increasing treatment integrity related to performance feedback are that the amount of education and training that a teacher has experienced does appear to have a moderate impact on the likelihood of both the performance feedback and intervention being effectively implemented. However, it is more clear that teachers who have minimal training with intervention implementation and students with special needs, are at a significant disadvantage if an intervention is attempted in the absence of consultation, monitoring of the intervention,

and performance feedback.

In terms of teacher judgment of the acceptability of behavioral outcomes, as previously discussed, teachers prefer positive reinforcement-based strategies and interventions for addressing identified behavioral difficulties students experience such as off-task behavior. Once again, research by Witt and Martens (1984) reinforces the consideration of negative reinforcement and punishment as a viable option for increasing the likelihood that teachers will follow the scripted intervention step checklist. Their research included 180 teachers from two states involving the acceptability of behavioral interventions. Teachers clearly preferred interventions that involved minimal time to implement and monitor. They were particularly concerned about the time that would be necessary to implement and monitor the intervention which significantly impacted their ratings of various written behavioral interventions. Thus, within the context of this research project, attention was given to both using this as a reinforcer and also as somewhat of an aversive technique as additional consultation sessions were available and offered to teachers with treatment integrity rates below 98%. For instance, the selected intervention required little time to implement and monitor by the teacher and the consultant, and additional time was necessary from the teacher only when the steps of the intervention were not accurately implemented and if they opted to participate in additional consultation sessions. This also endorses the hypothesis that both teacher and student behavior are subject to behavioral contingencies.

Summary

Treatment integrity research, intervention scripting, intervention

consultation, on-task behavioral intervention, and performance feedback research have been reviewed. As a result of the reviewed research, we may conclude that the monitoring and assessment of treatment integrity at the prereferral intervention level is integral in both the selection of specific interventions and strongly correlated with student outcomes, particularly with behavioral interventions such as increasing student on-task behavior rates. The selected intervention for increasing on-task behavior adhered to the empirically-researched methods for intervention implementation by including scripted intervention step checklists, teacher and student self-monitoring, direct observations of student on-task behavior changes and teacher intervention implementation, and performance feedback coupled with additional or enhanced consultation sessions for increasing the likelihood that the intervention was implemented according to the scripted checklist and as intended. Again, a four-phase ABCD design was utilized with the hypotheses broadly stated as being that increases in teacher intervention implementation treatment integrity correlate positively with increases in student on-task behavior rates, and that additional, enhanced consultation sessions with teachers increase treatment integrity rates when they are below a pre-selected rate

CHAPTER III

METHOD

Introduction

Methodological procedures that were used in this research project are described in this chapter. The population and sample selection procedures are discussed, and the methods for collection of data are described. The methods that were used in the analyses of the data and procedures within the research project are discussed. The methods and procedures reviewed were developed in order to answer the following research questions and to determine the validity of the research hypotheses. The following research questions are reviewed further in this chapter:

1. Was the student on-task rate below 80% in the absence of scripted intervention and consultation provided to the participating teachers?
2. Did student on-task rates increase to at least 80% in the cases where they were previously less than 80% in the presence of the scripted intervention and teacher consultation as they relate to the self-monitoring intervention?
3. Did the opportunity for enhanced consultation sessions increase successful teacher implementation rates to 98% or greater in the cases where teacher implementation rates were previously less than 98%?
4. Did student on-task behavior rates increase to a higher rate as student grade level increased in the presence of the student self-monitoring intervention?
5. Was the student on-task rate higher for students who had teachers with more years of teaching experience?

6. Was the student on-task rate higher for students who had teachers with a higher level of education training as defined by graduate credits of coursework?

Again, the purpose of this research project was to determine the impact of scripting and consultation on student on-task behavior rates, whether there were significant correlations between on-task behavior rates of students and teacher implementation rates, and whether enhanced consultation sessions and techniques correlate significantly with treatment integrity rates within the selected on-task behavioral intervention.

The first hypothesis is that participating students will demonstrate on-task behavior rates below 80% in the absence of scripted intervention and consultation with the participating teachers. The second hypothesis is that students on-task behavior rates will increase to 80% or greater with the implementation of a scripted teacher intervention step checklist and consultation with the participating teachers, and treatment integrity rates will be at least 98%. The third hypothesis is that in cases where intervention steps were followed successfully less than 98% of the time by teachers, enhanced consultation sessions will increase treatment integrity rates to at least 98%.

The fourth research question focused on the expectation of improvement as defined by increases in on-task behavior rates as student grade and age level increases. It was anticipated that student on-task behavior rates would be at a higher level or percentage for students in the higher elementary grade levels.

The fifth and sixth research questions focused on the correlation between years of teaching experience and student on-task behavior rates,

and teacher training and level of education and student on-task behavior rates respectively. It was anticipated that there would be a positive correlation between teachers' years of experience in the teaching profession and student on-task behavior rates in research question five. In research question six a positive correlation was anticipated between the teachers' number of credits of graduate coursework completed and student on-task behavior rates.

Design

This research project involved a pre-study/baseline, then ABCD design to investigate the validity of the aforementioned hypotheses. Post-hoc analysis of the data enabled conclusions to be made related to the tenability of these hypotheses. The specific steps of this intervention and project are described below in the context of the pre-study, then ABCD research format.

Procedurally, this study was designed to extend nine weeks with the following format and design: one week of student on-task behavioral observation (pre-study), two weeks of observation of student on-task behavior in the absence of scripted intervention and teacher consultation (Phase A), two weeks of application of the on-task student self-monitoring intervention with the teachers being provided with a ten-step scripted intervention checklist while the on-task rates of the participating students and teacher treatment integrity rates were observed and measured by the IST aides (Phase B).

At this point, teachers were to be informed if their treatment integrity rates were below 98%, or if they were successfully implementing less than 10 of the 10 intervention steps, and they were also to be told

that additional enhanced consultation sessions would be offered if their treatment integrity rates did not increase to 100% or 10 out of 10 accurate intervention steps over the next week. The next two weeks of the research project was to include the use of additional enhanced consultation sessions provided to the participating teachers by the Instructional Support Team teacher and school psychologists if treatment integrity rates remained below 98% and if the teachers signed up for the enhanced consultation sessions (Phase C). The last two weeks of the research project (Phase D) was to include a return to baseline phase with no self-monitoring intervention and only observation of student on-task behavior rates occurring.

Thus, the intervention was received by the participating students for a total of six weeks consecutively. After the fifth week, if any teacher's treatment integrity rate was not at 98% or greater, a written notice of the enhanced consultation session was provided to the teacher. If the teacher's treatment integrity rate was 98% or greater by the end of the sixth week, then no enhanced consultation sessions were necessary or offered to the teacher. Student on-task behavior rates were measured for all nine weeks of the research project by the IST teacher and IST aides.

Depicted below is the research map (Figure 1) of this project which depicts the independent variables such as the self-monitoring intervention, the teacher intervention and consultant checklists, and the enhanced consultation sessions when applicable. The dependent variables are also depicted being the student pre-intervention on-task rates and the student post-intervention on-task rates as well as the pre-intervention teacher treatment integrity rates and the post-intervention teacher treatment

integrity rates. More specifically, teacher treatment integrity rates and student on-task rates were measured pre-intervention, during, and post-intervention. The independent variables of student grade, years of teaching experience, and degree of teacher education being graduate credits successfully completed are also included. The independent variables' relationship with student on-task behavior rates are later evaluated.

The student on-task behavior rates were measured with the on-task observation form and the teacher treatment integrity rates were assessed via the teacher intervention step checklist and consultant intervention step checklist. The impact of the teacher intervention step checklist was specifically used to assess whether this instrument assisted in increasing teacher treatment integrity rates. Again, the selected intervention was the student self-monitoring intervention inclusive of the ten steps on the teacher and consultant intervention step checklists. Thus, the proper implementation of the scripted ten-step intervention being the self-monitoring intervention was intended to increase student on-task rates while high rates of treatment integrity are maintained.

Research Design

A time line depicting the four two-week phases and the initial baseline/pre-study phase comprising the entire nine-week research project. The phases in this study are best described as pre-study/baseline and ABCD in terms of experimental design. Due to the correlational design of the study, only associations between the on-task rates and the treatment integrity rates could be evaluated. No cause and effect conclusions could be evaluated in this study. There was a one-week pre-study, which involved the observation of students by the consultants, being the Instructional Support Team aides, to identify students who were on-task less than 80% of

the time as part of the Student Selection for Participation Matrix. The reason that the pre-study observation of students was only one week of daily observations, as opposed to the two weeks of phase D (post-study) daily observations, was that the variable of on-task behavior was being more closely analyzed during the study and post-study in order to determine if there were associations present between on-task behavior and phases of the self-monitoring intervention. Thus, it was reasonable to assume that additional data points would be necessary in Phase D in order to maintain validity and reliability.

Phase A indicates the data collection of observation of student on-task behavior with intervention only through provision of the intervention journal article one-page summary, shown as Appendix C, to the participating teachers in the absence of the scripted intervention step checklists.

Phase B, being the second phase of this study, was the implementation of the ten-step pre-referral self-monitoring intervention aimed at increasing student on-task behavior during direct instruction for a two-week period of time. Phase "B" involved the consultant providing the scripted ten-step checklist with direction provided to the participating teachers on its proper use, and continued observation of the students' on-task behavior rates.

Phase C, or the third phase of this study, involved the implementation of an enhanced consultation technique, being two additional consultation sessions, if needed with written notice to the teacher participants providing the opportunity to sign up for and participate in these sessions. The goal of these additional consultation sessions would be

to assist in increasing the teacher intervention implementation rates to at least 98% (10 out of 10 steps successfully completed) in all cases where implementation rates were below 98%. Phase C occurred in the continued presence of observation of student on-task behavior by the consultants. If at the end of the fifth week, within the context of phase C, the teacher implementation rates were 98% or greater, then no enhanced consultation sessions were offered consistent with the protocol of this study. However, if the teacher implementation rates, after calculating the average of the five days of the fifth week were still below 98%, then the identified teachers were offered the enhanced consultation sessions. The IST teacher was to serve as the consultant for these sessions in the cases where they were necessary with the focus being on methods of improvement.

Last, the final two weeks of the study involved a return to baseline, being Phase D, which involved the discontinuation of the self-monitoring intervention by participating teachers and students. The IST aide consultants observed student on-task behavior daily during the last two weeks of the study. The nine-week study time line is depicted as Figure 2 below. The participants, methods, and tools are also included as part of this time line. As previously stated, the phases of this study involved a pre-study, then an ABCD design.

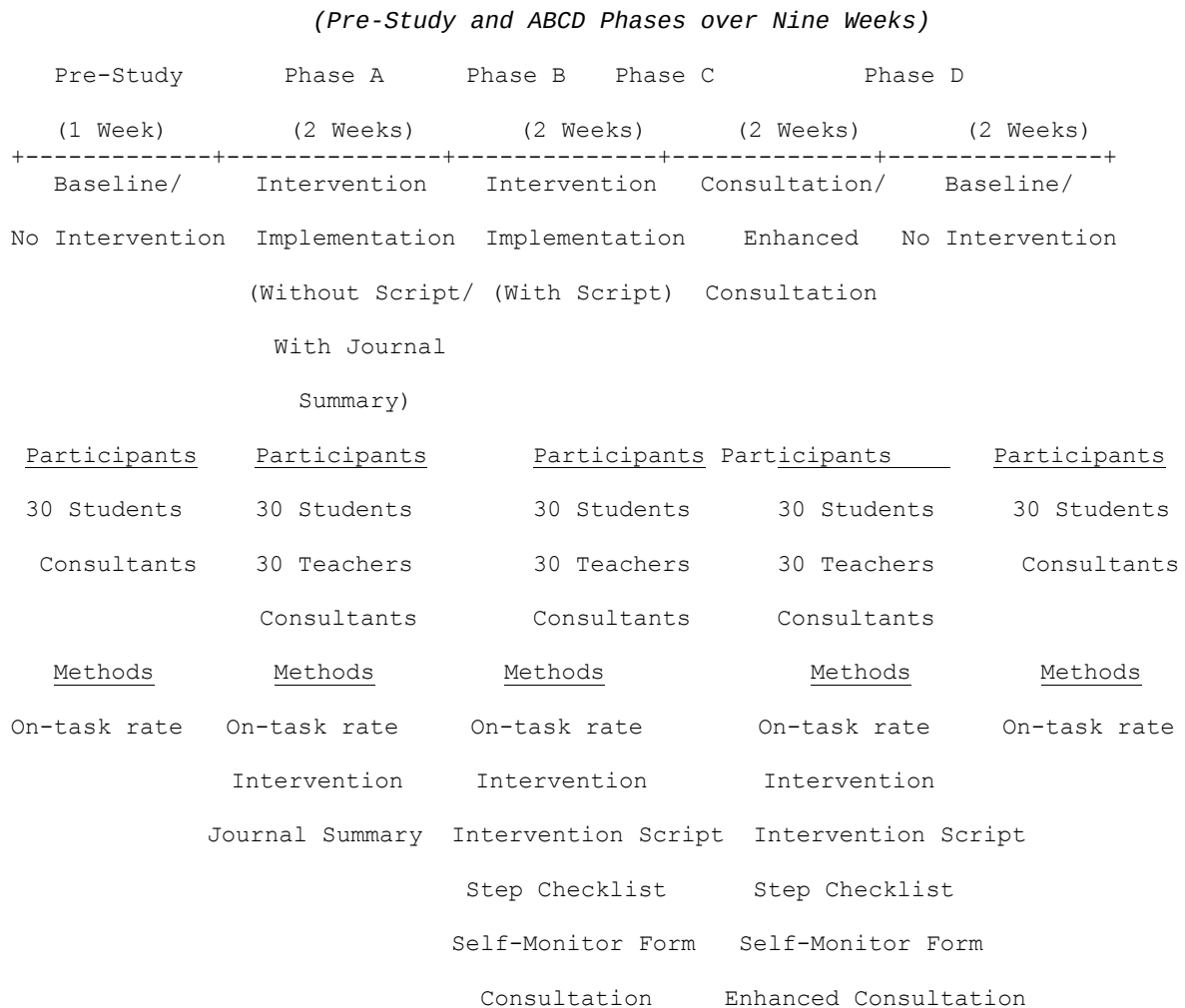


Figure 1: Time line of treatment integrity study.

Population

The population from which this researcher drew from was four Elementary schools, inclusive of grades two through six, in a rural school district in southeastern Pennsylvania. The school district was a rural school district by definition with no cities within its jurisdiction. The primary industries in the districted would be agriculture, general labor, trucking/hauling/transportation, and warehousing. The socioeconomic status was identified as low to middle SES. Four elementary schools were the targeted schools in the school district for implementing this research project. There were three smaller elementary schools which had one to two classes per grade level in kindergarten through sixth grades, whereas the largest elementary school had three to four classes per grade level during the academic year the study was completed being the 2008-2009 academic year.

There were approximately 200 students per grade level within the scope of the school district. There were no significant differences between the number of females and males in the scope of the entire school district and population. However, there were more selected males by way of the participant identification and selection process consistent with childhood developmental expectations and previous research conducted documenting male and female on-task behaviors.

No significant differences were indicated between elementary schools in terms of socioeconomic status, curriculum structure and design, or Instructional Support Team/pre-referral processes. The school district percent of the student population identified as special education was comparable to the state average of 14% being at 13.2% thus reducing the

possibility of a significantly different population and sample in the school district as compared to other school districts in the state. This was the only variable that was examined related to special education and regular education student percentages as the study included only students that were regular education students and thus 86.8% of the district population from grades two through six were identified as being potentially selected as participants in this study.

Again, socioeconomic status of the school district was best characterized and classified as low to middle socio-economic status. As far as special status, 100% of the participating students were regular education students without a disability or impairment due the intervention occurring within a pre-referral to special education framework and also being in accordance with the "Student Selection for Participation Matrix" criteria.

Sample

The participants involved in this research project included 13 students, 13 teachers of the selected students, the Instructional Support Team teacher, four Instructional Support Team assistants/aides, as well as this researcher in the provision of preliminary instruction of the intervention procedures and methods to the Instructional Support Team teacher. The sample itself included only the 13 participating students and 13 participating teachers.

The self-monitoring intervention to increase on-task behavior rates involved students at four school district elementary schools all classified as rural within a rural school district setting. Students were selected for this intervention by the Instructional Support Teams and

Instructional Support Team teacher at the four respective elementary schools using the "Student Selection for Participation Matrix" (Appendix A) developed by this investigator. One Instructional Support Team teacher served as chairperson of all four elementary Instructional Support Teams. Four Instructional Support Team assistants/instructional aides who are paraeducators assisted the IST teacher in identifying the potential 50 students who were at risk for special education referral due to on-task behavior rates that were below 80%. These Instructional Support Team aides possess the equivalent of two years of post-secondary and/or college training in the education or human services fields. The target number of student subjects desired for the study, being a minimum of 30 within a convenience sample, was determined by the minimum sample size rule of thumb so that statistical analysis would be possible (Borg & Gall, 1989). In sum, 50 parent consent to participate forms were mailed home with a total of three mailings.

Furthermore, additional participants included approximately 13 teachers in the application of the selected intervention, the researcher who consulted with the Instructional Support Team teacher regarding the research project steps and intervention training at the beginning of the project, and the four Instructional Support Team assistants. These participants included both males and females with a wide range of experience in the school setting indicated ranging from 2 to 25 years of experience. These adult participants, including teachers, the Instructional Support Team teacher, and Instructional Support Team aides were selected by availability and convenience.

By way of more detailed description, the participants in the sample

of this research project were comprised of 13 elementary students in grades two through five who had been observed and tracked previously during phase A as being on-task less than 80% of the time consistently during direct instruction activities to a degree that was adversely impacting their academic performance as indicated by a major subject grade being below 70% and consequently being included in the "Student Selection for Participation Matrix." A total of 50 students were selected but consent to participate was only returned by the parents of 13 of the 50 identified students. A total of 30 students were desired as the minimum criteria due to convenience sample size rules of thumb so that significant statistical analysis could occur.

The students were selected from grades two through five because the selected self-monitoring intervention selected and used in this research project reported that students younger than second grade level would likely not be able to acquire and utilize the self-monitoring strategies effectively. Grade six was selected as the high end cut-off grade level as this was the highest grade level in the elementary schools and additional extraneous variables would be present by extending the selected intervention into the middle school setting. However, there were no returned parent consent forms for the identified sixth grade students. It was predicted that there would be more males than females participating in the study due to previous research indicating that more males than females have difficulty maintaining on-task behavior in elementary school. The relationship of the sex of the participating students with on-task rates was not to be specifically studied in this research project, but will be analyzed via post-hoc analysis. All student participants were assigned

to the same treatment being the pre-study, then ABCD research design, and they participated fully in the nine week research project.

Also included as participants in this study were the Instructional Support Team teacher, and four instructional aides/IST assistants including one from each elementary school. These individuals all served as data collection personnel in this study, with the exception of the Instructional Support Team teacher who served as a consultant to the participating teachers. Thus, the 13 teachers of the students were also included in the sample. Data related to teachers' years of teaching experience and educational training was collected and analyzed after the study via t-tests to determine if there were any significant correlations related to the outcome and results of the self-monitoring student intervention being on-task behavior rates of students as well as teacher treatment integrity rates.

Assignment

Student subjects were assigned to the study group if they met the criteria listed on the "Student Selection for Participation Matrix" being that the students must be in grades two through six, demonstrate on-task behavior rates below 80%, be in possession of a grade below 70% in a major subject such as reading, English, math, science, or social studies, and be of regular education, not special education, status. The subject/student assignment for this project involved selecting students from each of four elementary schools based upon availability, the "Student Selection for Participation Matrix" criteria, and the receipt of signed consent forms from parents of the students, the students, and their teachers. All students received the on-task behavior intervention and treatment

condition, and all participating teachers were consistently provided with the one-page summary of the intervention, monitoring of the intervention forms (step checklists), consultation, and enhanced consultation sessions if treatment integrity rates were identified as being below 98% and if they voluntarily participated in the sessions.

Measurement

Listed below are the instruments/sources, validity, and reliability related to each research question in this research project. This measurement information is included in Table 3.

The first research question is, "Are student on-task rates below 80% in the absence of scripted intervention and consultation?" The instrumentation utilized to determine on-tasks rates was the On-Task Rate Time Sampling Form (Lloyd and Loper, 1986) and the validity and reliability of this instrument was indicated as good in terms of reliability and validity coefficients that were reported. The On-Task Rate Time Sampling Form enables direct observation of student on-task behaviors at point in time 15-second intervals for a total of 20 minutes thus a percentage of time on-task can be calculated at the end of a 20-minute observation period.

The second research question was, "Did student on-task rates increase to at least 80% in the cases where they were previously less than 80% in the presence of the scripted intervention and teacher consultation as they relate to the self-monitoring intervention?"

Instrumentation/sources include the On-Task Rate Time Sampling Form measuring student on-task rates and the Intervention Step Checklist (Consultant Form) measuring the accurate implementation of the 10

intervention steps. These forms were developed by the researcher.

The third research question was, "Did the opportunity for enhanced consultation sessions increase successful teacher implementation rates to 98% or greater in the cases where it was previously less than 98%?"

Instrumentation/sources were the On-Task Rate Time Sampling Form measuring student on-task rates and the Intervention Step Checklist (Consultant Form) measuring the accurate implementation of the 10 intervention steps.

The fourth research question is, "Do on-task rates increase with the presence of the self-monitoring intervention as student grade level increases?" Student grade level is determined through use of school records. The student grade level validity and reliability via school records is excellent. On-task behavior rates and treatment integrity rates are determined through the On-Task Rate Time Sampling Form and the Intervention Step Checklist (Consultant Form). Reid (1993) studied self-monitoring as an intervention for increasing student on-task behavior rates during academic task completion. The momentary time sampling form being the student On-Task Rate Time Sampling Observation Form (Appendix G) that was used daily in phases A through D inclusive of the full nine week study was a brief observation tool developed specifically by Lloyd & Loper (1986). It is noted that this observation tool or a similar observation tool is currently used by many school psychologists in their daily practices.

The fifth research question is, "Were the student on-task rates higher for students who had teachers with more years of teaching experience?" The instrumentation/sources are the On-Task Rate Time Sampling Form and teacher self-report/school records. The validity and reliability

of the teacher self-report and school records as they relate to the variable of number of years of teaching experience are noted as excellent.

The sixth research question is, "Were the student on-task rates higher for students who had teachers with a higher level of educational training as defined by completed graduate coursework?" Instrumentation includes the use of the On-Task Rate Time Sampling Form and self-report by the teachers related to the amount of coursework/credits completed. The validity and reliability of the teacher self-report related to teacher credits of graduate coursework is excellent.

Table 3

Research Questions, Latent Variables, Observed Variables, Instrument/Source, Validity and Reliability

Research Questions	Latent Variables	Observe Variables	Instrument/Source	Validity	Reliability
1.Are student on-task rates below 80% in the absence of scripted intervention and consultation?	Student on-task rates	Percentages	On-Task Rate Time Sampling Form	Very Good	Very Good
2.Did student on-task rates increase to at least 80% where they were previously less than 80% in the presence of teacher consultation and scripted intervention?	Student on-task rates/ Treatment integrity rates	Percentages Treatment Integrity (# of steps completed)	On-Task Rate Time Sampling Form/ Consultant Intervention Steps Checklist	Very Good Very Good	Very Good Very Good
3.Do offered/completed enhanced	Treatment Integrity rates of	Percentages Treatment Integrity	Consultant Intervention Steps	Very Good	Very Good

consultation sessions increase teacher implement. rates to 98% or greater in the cases where it was less than 98%?	teachers	(Number of steps completed)	Checklist		
4. Do on-task rates increase with the presence of the self-monitoring intervention as student grade levels increase?	Student on-task rates	Percentages	On-Task Rate Time Sampling Form	Very Good	Very Good
5. Are on-task rates > with teachers that have higher numbers of years of teaching experience?	Student on-task rates	Percentages	On-Task Rate Time Sampling Form	Very Good	Very Good
	Teaching experience	# of Yrs.	Self-report/ School Records	Excellent	Excellent
6. Are on-task rates > for students of teachers that have higher numbers	Student on-task rates	Percentages	On-Task Rate Time Sampling Form	Very Good	Very Good

of completed courses/credits?	Educational training	Number of completed graduate	Self-Report	Excellent	Excellent
credits					

The intervention monitoring forms that were used for data collection are in Appendices D and E. The Intervention Script Step Checklist for teacher use (Appendix D) is a checklist with the ten steps of the self-monitoring intervention listed sequentially. Appendix E is an identical form with the scripted intervention steps for consultant use. This form was used by the consultants to track the number of intervention steps successfully completed on a daily basis throughout the intervention process.

An additional form used for data collection in this study listed as Appendix F is the Student Intervention Self-Monitoring/Teacher Rating Form which was provided in order for the student and teacher to rate the student's on-task behaviors through a series of four questions as suggested within the intervention protocol. This form assisted in determining whether a student increased their on-task behaviors during direct instruction and whether they were engaging in behaviors that were conducive and consistent with on-task classroom behavior. Daily performance ratings were completed on this form by both the student and teacher with a comparison of matching teacher and student ratings occurring. The self-monitoring form was completed at the end of an instructional lesson, as were the teacher intervention step checklist and teacher ratings on the identical four questions that the subjects were self-monitoring.

Procedures

There were several task items that were completed related to students, teachers, consultants, and measurement methods for this research project. The Task Table below being Table 4 highlights these tasks with a basic description of each task, date of completion of the tasks, and who

completed the tasks.

Additionally, the research instruments and procedures that were used in this study are described as follows related to their function, use, and relationship to the phases and methodology of this research project. Appendices A through H have been developed to assist with intervention implementation and data collection within the context of this research project.

The "Student Selection for Participation Matrix" (Appendix A) was utilized to identify 30 elementary students for participation in this project. Appendix B includes the informed consent for student participation forms. Appendix C includes the intervention journal article summary which was presented to the teachers and was the teacher guide for implementation of the student self-monitoring intervention during phase A of the project. Appendix D is the intervention script and intervention steps checklist that was used by the participating teachers during the phase B portion of the project. The teacher/consultant intervention step checklist which is Appendix E enabled teacher treatment integrity rates to be calculated. The student intervention self-monitoring student/teacher rating form being Appendix F was utilized during phases B and C of the study only which is the core of the intervention. Students and their teachers both rated the students on four questions related to student on-task behavior after direct instruction as a method to increase self-awareness and student on-task behaviors. Appendix G is the only tool that was utilized throughout the entire nine weeks of the study being on-task rate time sampling observation form. This form was utilized by the consultants only. Last, Appendix H is the consultation script form which was to be utilized in phase C of the

Table 4

Treatment Integrity Study Task Table

#	Name	Description	Begin	End	Person(s)
1	Research Idea	Presented to Superintendent and School Board, designed an intervention to increase student on-task behavior and treatment integrity rates	10-06	12-06	Dissertation Chairperson, IST Teacher, School Board, Superintendent, Researcher
2	Refine Study	Review treatment integrity research and on-task interventions, identify instrumentation, meet with integral school staff, IRB review chapter revision/extension	2-07	5-08	Dissertation Chairperson, IST Teacher, IST Aides, IRB, Researcher
3	Student Identification	Identify sample and participants (Student Selection for Participation Matrix - Appendix A, send Informed Consent Forms)	8-08	9-08	IST Teacher, IST Aides, Consultants, Parents, Researcher
4	Intervention Implementation	Proceed with intervention phases A through D according to the Intervention Script using Appendix Forms E through H	11-08	3-09	2 nd - 6 th Grade Teachers, IST Teacher, IST Aides, Selected Students,
5	Scoring and Data Entry	Review rates of treatment integrity and student	4-09	9-09	Dissertation Chairperson,

	on-task behavior rates, compare baseline data to intervention rates, statistically analyze data			IST Teacher, Statistician, Researcher
6 Final Report Review	Meet with all parties to review results and outcomes, defend dissertation	10-09	11-09	Dissertation Committee, Superintendent, IST Teacher, IST Aides, Researcher
7 Report Presentation	Present the final report and results to the School Board	12-09	12-09	Superintendent, School Board, Researcher

study only as method to increase the likelihood of teachers demonstrating treatment integrity rates above 98% in which they would improve their performance to complete at 10 out of the 10 steps of the self-monitoring intervention accurately.

These instruments were utilized to assist in gathering data and as a part of the self-monitoring intervention itself. To review and summarize these instruments as depicted in the Appendices, the following Table 5 is listed to describe each instrument, the function and use, as well as the origin of the instrument.

With the design of this research project being ABCD in terms of the implementation of the on-task self-monitoring behavioral intervention, relationships between variables and the strength of correlations were able to be determined. Variables that were controlled and accounted for included: grade, school building, student sex, teacher years of experience, teacher educational background, and the selection process of the participation of the students as indicated in the "Student Selection for Participation Matrix." Measured or dependent variables included the on-task student rates, treatment integrity rates being the implementation of the ten-step intervention checklist, and the response to the enhanced consultation sessions by teacher participants via assessment of the rate of successful implementation of the ten intervention steps, or treatment integrity rates.

By way of further description, the manipulated variables focused on the accuracy of the implementation of the on-task self-monitoring intervention, use of the intervention one-page summary, the intervention step checklist, and enhanced teacher consultation sessions if needed.

Table 5

Appendices: Research Project Instrumentation, Function, and Origin List

Appendix Letter	Name of Instrument	Function	Origin
A	Student Selection for Participation Matrix	Delimitation	Researcher
B	Informed Consent Student Participation	Institutional Review Board	Researcher
Forms			
C	Intervention Journal Article Summary	Intervention Implementation	(Reid, R., 1996)
D	Intervention Script and Step Checklist (Teacher Use)	Data Collection/ Intervention Implementation	Researcher (Ehrhardt et al, 1996)
E	Teacher/Consultant Intervention Step Checklist (Consultant Use)	Data Collection/ Intervention Implementation	Researcher
F	Student Intervention Self-Monitoring Student/Teacher Form	Data Collection/ Intervention Implementation	(Reid, R., 1996)
Rating			
G	On-Task Rate Time Sampling Observation Form	Data Collection	(Lloyd, J. W., & Loper, A. B., 1986)
H	Consultation Script Form	Intervention/ Intervention Implementation	Researcher

More specifically, in the pre-study week, no intervention was present with only the on-task behavior of student participants being monitored by the consultants daily with the On-Task Rate Time Sampling Observation Form. In phase A, being a period of two weeks, the intervention journal summary was presented to the teachers to implement the intervention. In phase B, the intervention ten-step scripted checklist (Teacher and Consultant Forms) and the student self-monitoring forms were used being Appendices D and F respectively. In phases B and C, all of the aforementioned manipulated variables were utilized along with enhanced consultation sessions if necessary when a teacher's accurate implementation of the ten intervention steps was below 98% and when they were voluntarily willing to participate in the two enhanced consultation sessions to improve their treatment integrity rates.

The consultation form in Appendix H was used in all teacher consultation cases. Phase D involved a return to baseline data collection involving only the monitoring of student on-task behavior using the On-Task Rate Time Sampling Observation Form used by the consultants in the absence of intervention and consultation with teachers.

The dependent, or measured variables, included the measurement of the on-task student behavior rates in Phases A through D, and the assessment of the number of intervention steps followed by teachers on the intervention script checklist (treatment integrity rates) without enhanced consultation sessions and also with enhanced consultation sessions as needed (when teacher implementation rates were below 98% at the end of week five and again at the end of week six). Ultimately, the purpose of the study was to increase student on-task rates and successful teacher implementation of the

self-monitoring steps to a rate of 98% or greater. It was desired that student on-task rates would increase to 80% or greater throughout the course of the study.

Verbal praise was provided as a reinforcer for accurate self-monitoring when the students' self-monitoring responses not only matched the teacher responses, but when they also reflected on-task behavior rates of 80% or greater as per the intervention protocol. In other words, verbal praise was provided for accurately self-reporting an affirmative response with at least three out of four on-task behavior questions on the student self-monitoring form. Shapiro (1987) indicated that it is imperative to consider the immediacy of change, and to ensure that everything possible is done to increase the likelihood of positive intervention outcomes from the onset of the intervention. This supports the premise that immediate self-monitoring/self-reporting and verbal praise must be provided in the context of classroom interventions.

Immediate feedback and verbal praise were provided when appropriate immediately after the instructional lesson, because it is generally understood that delays in feedback and verbal praise can substantially impact the intent of the intervention adversely. One exception was that a gift certificate was provided to each student who participated in the project. However, the gift certificate only served as a reward for participation at the end of the study and not as a reward for success with the self-monitoring intervention or related to observed increases in student on-task behavior.

The data collection tool utilized throughout all phases of the study (ABCD) including the pre-study phase is depicted in Appendix G and is

termed the On-Task Rate Time Sampling Observation Form which was used only by the consultant during twenty-minute observations daily throughout the full nine weeks of the study for each of the 13 students to determine their on-task rates as well as corresponding increases and decreases in these rates. The On-Task Rate Time Sampling Observation Form compared four students including the identified student where the students' on-task behavior was indicated every 15 seconds by the observer. Average on-task behavior rates were computed at the end of the observation session.

The last form used is found in Appendix H, the Consultant Script/Checklist Form which sequentially lists the consultation steps that each consultant followed when providing the intervention to participating teachers. Each consultant check marked each of the four consultation steps on the form as they completed each step.

The methods and procedures of this study included the use of the data collection tools/instruments above. The methods focused concretely on the measurement and assessment of changes in the dependent variables which have been previously identified as the on-task behavior rates of the students and the implementation rate of the ten steps of the selected pre-referral, self-monitoring intervention. A critical point occurred in phase three at the end of week five when the teachers were instructed in writing that enhanced consultation sessions would be offered if their implementation rate fell below 98%, and with the actual computation of the implementation rate at the end of week six reflecting the impact of the prospects of voluntary additional enhanced consultation sessions if these sessions were necessary. The self-monitoring intervention and intervention step checklists were developed by Mortenson and Witt (1998) which were adhered

to strictly in weeks three through six of the study.

Mortenson and Witt (1998) also demonstrated that performance feedback in the presence of academic and on-task behavioral interventions increases teacher intervention implementation rates consistently to a rate of 80% or greater. Consultation in the presence of such interventions also assists with increases in treatment integrity rates as described by Witt et al. (1997).

In sum, within the context of this research project, daily performance was monitored through direct observation by the consultant using the scripted intervention step checklist, completion of the checklist by the teacher implementing the intervention, and verbal performance feedback through consultation in all cases and enhanced consultation sessions being offered in cases where treatment integrity rates fell below 98% as determined by direct observation. More specifically, if teacher treatment integrity rates were below 98% at the end of week five, then enhanced consultation sessions were offered to the teacher based on the premises that additional consultation sessions can assist with correcting inaccuracies and errors in intervention implementation and that additional consultation sessions can be time consuming as consistent with previous research findings in this area.

Statistical Analyses

The following research questions, hypotheses, variables, and statistical analysis procedures as well as assumptions were utilized in this research project. The research findings involved only associations and were no cause and effect explanations were provided. Dependent sample t-tests were the selected statistical measures as well as Pearson

correlations due to the presence of ratio data, residual normality for each value, residuals that equaled the variance of each x value, and linearity. Thus, descriptive statistical analysis was the preferred method of choice for analyzing the data from this research project. The research questions, hypotheses, variables, and statistics utilized are described and depicted in Table 6 illustrated below.

Table 6

Research Questions, Hypotheses, Variables, Statistical Analyses, and Statistical Assumptions for the Treatment Integrity Research Project

Research Questions	Hypotheses	Variables	Statistic	Assumptions	Appropriateness
1. Is student on-task rate below 80% in the absence of scripted intervention and consultation?	Student on-task rates are less than 80%.	Student on-task rates during baseline thumb"	t-test for depend. samples and means	1. Interval or Ratio data 2. Normality 3. Equal variances 4. Sample size	1. Examine the instrument 2. Normal curve 3. Descriptive statistics 4. "Rules of
2. Do student on-task rates increase to at least 80% in cases where they were less than 80% in the presence of scripted interv. and consultation?	On-task rates are at least 80%.	Student on-task rates during baseline and phase 1	t-test for depend. samples and means	1. Interval or Ratio data 2. Normality 3. Equal variances 4. Sample size	1. Examine the instrument 2. Normal curve 3. Descriptive statistics 4. "Rules of thumb"
3. Did teacher participation in enhanced consultation sessions increase teacher implement.	Implementation rates increase to at least 98% in 100% of the cases.	Teacher intervent. implement. rates	t-tests for depend. samples and means	1. Interval or Ratio data 2. Residual normality for each X value 3. Residuals equal	1. Examine instrument 2. Examine a plot of the residuals 3. Visual inspection

rates to 98% or greater in the cases where it was less than 98%?				variance for each X value 4.Linearity	of a scattergram 4.Visual inspection of a scattergram
4.Do on-task rates increase in the presence of the self-monitoring intervention as student grade levels increase?	On-task rates are higher with students at higher grade levels.	Student on-task rates	t-tests for dep. samples	1.Interval or Ratio data 2.Normality 3.Equal variances 4.Sample size	1.Examine the instrument 2.Normal curve 3.Descriptive statistics 4."Rules of thumb"
5.Are on-task rates > for students who had teachers with more years of teaching experience? years	On-task rates are higher for students who had teachers with > of teaching experience.	Student on-task rates	t-tests for depend. samples and correl.	1.Interval or Ratio data 2.Residual normality for each X value 3.Residuals equal variance for each X value 4.Linearity	1.Examine the instrument 2.Examine a plot of the residuals 3.Visual inspection of a scattergram 4.Visual inspection of a

					scattergram
6.Are on-task rates	On-task rates	Student	t-tests	1.Interval or	1.Examine the
> for students	are higher	on-task	for	Ratio data	instrument
who had teachers	for students	rates	depend.	2.Residual	2.Examine a
with a greater	who had		samples	normality	plot of
number of	teachers		and	for each	the
successfully	with a >		correl.	X value	residuals
completed	number			3.Residuals	3.Visual
graduate	of graduate			equal	inspection
credits?	credits			variance	of a
	successfully			for each	scattergram
	completed.			X value	
				4.Linearity	4.Visual
					inspection
					of a
					scattergram

Statistical analyses of the data collected during phases A, B, C, and D occurred in order to determine the outcomes of the six hypotheses. Data collected involved both the response by the teacher and the response by the student to the on-task intervention. The first three hypotheses focus on the on-task rates of the students, the response to the self-monitoring intervention by students, and the treatment integrity rates of the teachers as well as potential outcomes of teacher participation in enhanced consultation sessions.

The last three hypotheses focus on the differences on the outcomes of the self-monitoring intervention being specifically on-task rates as they relate to student grade, teaching experience, and teacher educational background. The results of the statistical analyses depicted above in Table 4 assist in determining the value of scripted intervention step checklists, enhanced consultation techniques and sessions used to increase treatment integrity rates, self-monitoring as a viable intervention to increase on-task behaviors, and the impacts of student self-monitoring of on-task behaviors as they relate to student grade level, teaching experience and teacher educational background. Again, the time sampling observation tool was the primary instrument utilized in determining student on-task rates and the Teacher and Consultant Intervention Steps Checklists were utilized in determining the treatment integrity rates of the teachers. Data and percentages are discussed in the results and summary portions of this dissertation.

Summary

Throughout this research project the intent was to determine if there were correlations between scripted intervention checklists and teacher

treatment integrity implementation rates as well as student changes in on-task behavior rates. Correlations were also investigated between student grade level and treatment integrity rates, teaching experience and treatment integrity rates, and teacher educational background and treatment integrity rates as well as the impact of enhanced consultation sessions on treatment integrity rates was explored.

It was thought that overall effectiveness of the self-monitoring intervention would increase given increases in treatment integrity rates. Previous research has demonstrated that increases in student self-monitoring correlated strongly with student on-task behavior rates. It was thought that as student grade level increased, the positive effects of the self-monitoring intervention on on-task behavior would increase for students. Additionally, it was hypothesized that students would respond more favorably to the self-monitoring intervention in cases where teachers had more years of teaching experience and cases where the teachers had successfully completed a greater number of graduate courses.

Last, it was predicted that in cases where additional consultation sessions were offered if needed, due to low treatment integrity rates, that teachers would respond favorably to enhanced consultation sessions by increasing their treatment integrity rates which would ultimately correspond with increases in student on-task rates. The intent of this research project then was to contribute to the present research base in the areas of scripted interventions with scripted checklists and consultation with the primary focus being on self-monitoring interventions used to increase student on-task behavior for at-risk elementary students and on the potential impacts of enhanced consultation sessions.

CHAPTER IV

RESULTS

This research project was structured in a manner to investigate if scripting procedures, consultation, teacher and consultant checklists, and direct observation in combination with a self-monitoring intervention for elementary grade level students would increase the likelihood that the intervention steps would be followed according to protocol. Previous empirically-based research has revealed that interventions that account for treatment integrity have a greater likelihood of being successful in treating academic, behavior, and social difficulties that children encounter in public school settings.

Within the context of this research project, two intended goals were present. First, the primary goal was to increase on-task behavior of elementary students selected from four elementary schools in grades two through six via use of empirically-based effective prereferral intervention. The second goal was to increase the likelihood of an improvement in on-task behavior with these selected students by increasing and maintaining an acceptable treatment integrity rate of at least 98%. Two specific areas were researched within this project, these being: the impact intervention scripting and consultation had on treatment integrity rates, and the impact that scripted consultation had on treatment integrity rates.

Assumptions

The research project included six specific assumptions. First,

the treatment integrity measurement via the teacher and consultant intervention step checklists were a prerequisite for successful prereferral intervention selection, development, and application. Second, the treatment integrity could be measured and monitored via a variety of formats and the primary formats used were the teacher intervention step checklist and consultant intervention step checklist. Third, these direct observation, moment in time, formats were the most effective, research-documented formats available. Fourth, these specific consultative techniques inclusive of scripting, use of protocols and intervention checklists, and direct observation were selected based on their efficacy in the present research base. Fifth, it was assumed that the selected self-monitoring intervention selected for use in this research project would be successful in increasing student on-task rates because it was effective within the context of previous studies. Last, it was assumed that due to the practicality, ease of use, time effectiveness, and design of this intervention that treatment acceptability of the selected intervention would be good among participating teachers.

Research

Questions and Hypotheses

More specifically, six research questions were posed and explored in the context of this research project being:

1. Was the student on-task rate below 80% in the absence of scripted intervention and consultation provided to the participating teachers?
2. Did student on-task rates increase to at least 80% in the cases where they were previously less than 80% in the presence

of the scripted intervention and teacher consultation as they relate to the self-monitoring intervention?

3. Did the opportunity for enhanced consultation sessions increase successful teacher implementation rates to 98% or greater in the cases where teacher implementation rates were previously less than 98%?
4. Did on-task behavior rates increase to a higher rate while student grade level increased in the presence of the student self-monitoring intervention?
5. Was the student on-task rate higher for students who had teachers with more years of teaching experience?
6. Was the student on-task rate higher for students who had teachers with a higher level of education training being defined by graduate credits of coursework?

These research questions were then framed as hypotheses and the statistical analysis enabled us to answer these six questions described in detail later in this chapter. The sex of the participating teachers and students were not specifically studied due to the low number of teacher and student participants and the basic assumption that most elementary teachers are females and elementary male students typically experience more difficulty with maintaining on-task behavior than their female counterparts. More specifically the sex of teacher participants and correlation with student on-task behavior was not selected as an initial research question due to the anticipated low percentage of male teachers participating in the research study. According to the National Education Association in 2005, "the

percentage of male teachers at the elementary levels has declined steadily during the last two decades: in 2002, 9% of elementary teachers were male; in 1993 the proportion was 14.6%; in 1983 the proportion was 16.7%" (NEA, 2003, Brookhart, and Loadman, 1996). Thus, it was surprising to note that four of the thirteen participating teachers were males (30.1%) and nine were females (69.9%). In terms of the sex of the participating students, there were three female (23.1%) and ten male participants (76.9%).

The phases of this study were best described as pre-study of student on-task behavior rates, then ABCD in terms of experimental design. This reflects a quasi-experimental approach and it was assumed that no more than associations could be determined from the results of the study via use of dependent sample t-tests and Pearson correlations. There was a one-week "pre-study" which involved the observation of students by the consultants to identify students who were on-task less than 80% of the time being part of the Student Selection for Participation Matrix.

The "A" phase indicated the data collection of observation of student on-task behavior with intervention first being implemented only through provision of the intervention journal article summary (Appendix C) to the participating teachers in the absence of the scripted intervention step checklists and consultation.

The "B" phase, or second phase of this study, was the implementation of the ten-step pre-referral self-monitoring intervention targeted at increasing student on-task behavior during direct instruction for a two-week period of time. Phase "B" involved the consultant providing the scripted ten-step checklist with direction

provided to the participating teachers concerning its proper use. Observation of the students' on-task behavior rates continued during this time.

The "C" phase, or third phase of this study, involved the implementation of an enhanced consultation technique, or two additional consultation sessions if needed with written notice provided to the teacher participants of the opportunity to sign up for and participate in these sessions with the goal being to assist the teacher in increasing intervention implementation rates to at least 98% in all cases where implementation rates were below 98%. Phase "C" occurred in the continued presence of observation of student on-task behavior by the consultants. If at the end of the fifth week, within the context of phase C, the teacher implementation rates were 98% or greater, then no enhanced consultation sessions were offered. However, if the teacher implementation rates, over the average of the five days of the fifth week were still below 98%, then the identified teachers were offered the enhanced consultation sessions with the IST teacher serving being the consultant.

Last, the final two weeks of the study were to involve a return to baseline (phase "D") and no use of the intervention by participating teachers and students. The consultants observed student on-task behavior daily during the last two weeks of the study. The phases of this study involved a pre-study, then an ABCD design.

Complications

Within the context of this study, there were several complications and limitations. First, and most significantly, there

were less student and teacher participants in the study than anticipated. This was a result of overall a poor return rate of parent consent forms from parents allowing their child to participate in the research project. Approximately 50 students were identified as potential participants in the research project through the use of the "Student Selection for Participation Matrix." Unfortunately, even through the process of triple mailings of the parent consent form, only 13 parent consent forms were returned. Several possible reasons for the low return rate, being only 26%, include the time of the academic school year because it was early in the academic year.

Frequently in public schools academic problems are not realized until the end of the first marking period when report cards are distributed or later. Terri Mauro (2009) asserts in "In How Often Should I Meet with My Child's Teacher", parents often erroneously wait until they receive their child's report card or progress reports to discuss academic concerns with their child's teacher. Additionally, the language in the parent consent form used in this research project was considered to be somewhat complex which was required due to full disclosure being necessary. The parent consent form was also quite verbose to read through and thus some parents may have simply discarded the consent form without giving the research full consideration.

The less than 30 students and 30 teachers participating in the study definitely limits the strength of the conclusions that can be made in the context of this research and this fact is fully acknowledged. This also serves as a guide for additional research,

not only in this school district, but at large in that a larger subject pool should be available in order to meet or exceed the 30 participant/subject threshold.

Another complication or limitation was that a teacher removed themselves from the research project just prior to the project initiation because they felt that their schedule was too chaotic to participate, and that they would not be able to put forth their full effort and attention to the project. Reasons for their not participating were both professional and personal reasons.

An obvious complication and limitation to the research project that may have adversely impacted the reliability and validity of the research included the fact that Thanksgiving and winter holiday breaks caused a lack of continuity in the application of the student on-task intervention. Thus, the student and teacher participants had two weeks away from school and the intervention during these times. It was not anticipated that the research data collection would occur over these school breaks because the data collection was to be completed prior to the winter holiday break. This was not able to occur because multiple mailings of the parent consent form delayed the initiation of data collection by approximately two months.

Last, no structured, script-based consultation was required during phase three being weeks seven and eight of the project since teacher treatment integrity rates were at 100% for the duration of the project. In other words, all teacher participants followed

the student on-task scripted ten-step intervention steps with 100% accuracy and integrity. This was an unanticipated outcome of the study since phase three of the project was designed to provide individual teacher consultation for the teachers that did not meet or exceed 98.0% treatment integrity.

Analysis

Described and depicted in this section are five dependent sample paired t-test procedures and correlations that were used to assist in investigating research questions one through three which were specifically related to average student on-task rates during the various phases of the study. Impacts of the use of scripted intervention and consultation, and overall student on-task rates were also investigated as part of research questions one through three.

Pearson correlations were used to assist in analyzing research questions four, five, and six which investigated the relationships between student on-task rates and grade level, and whether significant correlations existed between the number of years the participating teachers have taught and student on-task rates as well as the number of graduate credits the teachers have attained and student on-task rates. The following research questions have been presented throughout this research project with the accompanying hypotheses, variables, and statistics as presented in Table 7 below. The use of each related variable is of primary focus on Table 7.

Table 7

Research Questions, Hypotheses, Variables, Statistics, and Use of Variables for the Treatment Integrity Research Project

Questions	Hypotheses	Variables	Statistic	Use of Variables
1. Is student on-task rate below 80% in the absence of scripted intervention and baseline consultation?	Student on-task rates were less than 80%.	Student on-task rates during baseline 1 phase	Mean/average student on-task rates during (dependent sample t-tests)	The variables were used to determine whether students were on-task less than 80% of observed intervals as hypothesized.
2. Did student on-task rates increase to 80% or > when scripted intervention checklists and consultation occurred?	On-task rates were at least 80% when rates scripted intervention checklists consultation occurred.	Student on-task rates during baseline 1 and phase 1	t-test for mean/avg. on-task rates during baseline 1 and phase 1 dependent sample t-tests	The variable was used to determine whether students were on-task at least 80% during phase 1 in the presence of the scripted intervention and consultation and whether significant increases in on-task rates occurred between baseline 1 and phase 1.
3. Did teacher participation in enhanced	Implementation rates increased to at least	Teacher intervent. implement.	Pearson correlat.	The variable was used to determine whether enhanced consultation

consultation	98% in 100%	rates	sessions with teachers
sessions	of the cases.		correlated positively
increase			or negatively with
teacher			teacher implementation
implement.			rates.
rates to 98%			
or greater			
in the cases			
where it was			
less than 98%?			
4. Did on-task rates	On-task rates	Student t-test	The variable of student
increase in the	were higher	on-task for	on-task rates was
presence of the	with students	rates dep.	compared with student
self-monitoring	at higher	samples	grade level to determine
intervention when	grade levels.	and	if greater increases in
student grade		correlat.	student on-task rates
levels increased?			were present with higher
grade			level students.
5. Were on-task rates	On-task rates	Student Pearson	The variables of student
> for students	were higher	on-task correl.	on-task rates and years
who had teachers	for students	rates/	of teaching experience
with more years	who had	years of	were compared in each
of teaching	teachers	teaching	independent case
experience?	with more	experience	to determine if there
	years of		was a correlation
	teaching		between these two
	experience.		independent variables
			within cases.
6. Were on-task rates	On-task rates	Student Pearson	The variables used to

> for students were higher on-task correl. included student on-task
who had teachers for students rates rates and teacher
with a greater who had graduate credits as
number of teachers compared and
successfully with a > investigating for
completed number correlations within
graduate of graduate each of the individual
credits? credits cases.
 successfully
 completed.

The dependent variable throughout the entirety of this research project was the on-task behavior which was calculated as rate or percentage of time student participants were on-task during the twenty minute time sampling observations. The on-task rates indicated normality demonstrated through use the SPSS histogram analysis. Appendix I depicts the histogram analysis with normality present. Further assumptions included the presence of interval/ratio data, equal variances, residual normality for each X value, and a continuous sample size of 13 students and 13 teachers throughout the research project. There was one identified outlier with student participant seven in that their on-task rate was only 40% during the first baseline phase which is depicted in the scatterplots and histograms in Appendix I. The decision was made to not exclude this case since the mean was only 1.8% higher (63.9% and 62.1%) and the standard deviation was slightly higher when removing the outlier of the student with an on-task rate of 40%.

Question one was analyzed by simply calculating the average or mean of all 13 students who participated in the research project. The mean was found to be 62.1% with a standard deviation of 11.9 indicating that students were on-task less than 80% of the time in the absence of scripted intervention and teacher consultation thus confirming the hypothesis related to research question one. The range for these students with a total range of 39% with the lowest participant being 40% and the highest participant being 79%.

Student on-task rates in the absence of scripted intervention and teacher consultation ranged from 40% to 77% on-task during the two weeks of baseline observation using the On-Task Rate Time Sampling

Form.

Research questions two and three investigated whether there were increases in student on-task rates to at least 80% with all student subjects who participated in the study in the presence of the summary of the intervention being provided to the teachers (phase one) and then in the presence of the consultant-provided scripted intervention and teacher consultation (phase two). Statistical analysis of this data also reveals whether such increases in student on-task rates between baseline one and phase one, and phase one and phase two are significant. Paired t-tests that were conducted indicated that there was a significantly statistic increase in student on-task rates between baseline one (average student on-task rates in the absence of scripted intervention and teacher consultation) and phase one student on-task rates(intervention summary provided to the teachers) and phase two student on-task rates (scripted intervention and teacher consultation).

Paired t-tests that were conducted to evaluate the impact of the summary of the student self-monitoring intervention on student on-task rates between baseline and phase one revealed statistically significant differences in on-task rates with baseline being ($M=62.1\%$, $SD=11.9$) and phase one being ($M=87.3\%$, $SD=4.1$). The eta squared statistic of .86 indicated a robust effect size. Thus, there was a significant difference between student on-task rates in the initial baseline phase and the on-task rates during phase one where the teachers were provided with only a one-page summary of the student on-task monitoring intervention when the intervention was initially

implemented.

Paired t-tests were also conducted to evaluate whether there were significant increases in average student on-task rates between phase one (summary of the self-monitoring intervention provided to the teacher only) and phase two (implementation of the scripted intervention checklists and teacher consultation). The results of this analysis indicated no statistically significant difference present related to increase in average student on-task rates from phase one (M=87.3%, SD=4.1) to phase two (M=91.9%, SD=6.4) of the research project. The eta squared statistic of .34 indicated a small to effect size overall. Citing Cohen's research, three factors affect power: the probability of rejecting the null hypothesis when it is true, the sample size, and the effect size. "Power increases as alpha or sample size or effect increase" (SAGE Website. 1971. *Educational and psychological measurement*, Vol. 31, No. 1, pp. 303 - 307.)

Related to research questions two and three, the statistics presented above and statistical analysis on Table 8 below demonstrate that statistically significant increases in the average student on-task rates are present in the progression of the research project from the initial baseline to phase one of the study. It is significant to note that the average student on-task rates during the two-week baseline phase were 62.1% which then increased with the two-week onset of the self-monitoring intervention where the teacher was only provided with a one-page summary of the intervention. During this two-week time period, average student on-task rates were calculated at 87.3%.

Statistical significance was also present between baseline one (first two weeks of the study) and baseline two (last two weeks of the study). The eta squared of .95 indicates a robust effect size when comparing these two phases. Thus, there were significant differences present between before intervention on-task rates and post-intervention on-task rates of students. Average student on-task rates improved from 62.1% to 90.1% from baseline one to baseline two within the study.

Listed below in Table 8 are the paired sample statistics, paired sample correlations, and paired samples t-tests set at the .05 level of analysis used in answering research questions one, two, and three as they relate to increases and decreases in student on-task rates and teacher implementation of intervention variables. Although not reflected on the tables below, teacher integrity rates, or to what extent teachers implemented the student self-monitoring intervention according to protocol within ten scripted intervention steps, were monitored by a consultant. All teacher integrity rates during phases two and three were a striking 100% as monitored by the consultants using the "Script Intervention Step Checklist Observer Form" which eliminated the need for additional teacher consultation sessions. Additional teacher consultation sessions were eliminated from the research project due to lack of need for these sessions which was unanticipated within this research study.

Table 8

*Dependent, Paired Samples t-Tests Used in Analyzing Research Questions One, Two, and Three of the Treatment Integrity Research Project (.05 level)
Involving Student On-Task Behavior Rates (n = 13)*

<u>Group</u>	<u>Phase</u>	<u>n</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>	<u>r</u>	<u>eta</u>	<u>t</u>	<u>p</u>
#1	Baseline 1	13	62.1	11.9	40.0-79.0				
	Phase 1	13	87.3	4.1	78.0-94.0	.48	.86	-8.60	<.001
#2	Phase 1	13	87.3	4.1	78.0-94.0				
	Phase 2	13	91.9	6.4	73.0-99.0	.34	.36	-2.58	.024
#3	Phase 2	13	91.9	6.4	73.0-99.0				
	Phase 3	13	92.4	6.1	82.0-98.0	.84	.02	0.54	.602
#4	Phase 3	13	92.4	6.1	82.0-98.0				
	Baseline 2	13	90.1	6.5	82.0-98.0	.63	.18	1.47	.167
#5	Baseline 1	13	62.1	11.9	40.0-79.0				
	Baseline 2	13	90.1	6.5	82.0-98.0	.92	.95	-15.58	<.001

Research question four explored the relationship between participating students grade level and on-task behavior rates. The hypothesis was that at the higher elementary grade levels such as grades four and five, student on-task rates would increase more significantly across the phases of the study. Grade level increases were correlated positively with on-task rate increases only during phase three of the research project as depicted on Table 9. Phase three included weeks five and six where the teacher was already provided with the intervention, scripted intervention step checklist, and the student was utilizing the on-task self-monitoring intervention for a minimum of three weeks.

Table 9

Correlations Between Student On-Task Levels (through five phases) and Student On-Task Rates Related to Research Question Four (n = 13)

DESCRIPTIVE STATISTICS - - - - -

<u>Variable</u>	<u>n</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>
Baseline 1	13	62.1	11.9	40.0-79.0
Phase 1	13	87.3	4.1	78.0-94.0
Phase 2	13	91.9	6.4	73.0-99.0
Phase 3	13	92.4	6.1	82.0-98.0
Baseline 2	13	90.1	6.5	82.0-98.0

CORRELATION MATRIX - - - - -

		Baseline	Phase 1			
	Student	On- Task	On-Task	Phase 2 On-	Phase 3 On-	Baseline 2
<u>Group</u>	<u>Grade Level</u>	<u>Rate</u>	<u>Rate</u>	<u>Task Rate</u>	<u>Task Rate</u>	<u>On-Task Rate</u>
Student	1.00	.288	.253	.462	.592	.292
Grade Level		p=.340	p=.405	p=.112	p=.033	p=.333
Baseline		1.00	.483	.434	.566	.916
On-Task			p=.095	p=.138	p=.044	p<.001
Rate						
Phase 1 On-			1.00	.344	.330	.513
Task Rate				p=.250	p=.271	p=.073
Phase 2 On-				1.00	.836	.405
Task Rate					p<.001	p=.170
Phase 3 On-					1.00	.630
Task Rate						p=.021
Baseline 2						1.00
On-Task						
Rate						

Research questions five and six investigated whether there were any correlations present between student on-task behavior rates and years of teacher experience as well as on-task behavior rates and the number of graduate credits the thirteen participating teachers had successfully completed respectively. The hypothesis was that when years of teaching experience and graduate credits completed increase, student on-task behavior rates/percentages also increased. Statistical analysis of these relationships revealed that the relationships that were anticipated were not congruent with the actual results and outcomes as depicted in Tables 10 and 11 below.

For instance, in regard to question five there were no significant positive or negative correlations present in regard to years of teaching experience and student on-task rates. The average years of teaching experience with the thirteen participating teachers was 10.4 years of teaching experience. The total number of years of teaching experience inclusive of all thirteen teachers was one hundred thirty-five years. The results of this particular analysis lend support to the fact that teachers with any level of experience can be just as successful in the implementation of this particular student self-monitoring intervention designed to improved student on-task behavior and rates. Significance was not met at the 0.01 or 0.05 level indicated on Table 8 above thus supporting the conclusion that there were no positive or negative correlations between the variables of student on-task behavior and teaching years of experience.

In regard to research question six, one negative correlation was present. The number of graduate credits completed by participating

teachers was negatively correlated with the phase three, or weeks five and six, of the research study as shown in Table 9. When the teachers' level of education increased, the participating students' on-task rates decreased. The average number of graduate credits completed by the 13 participating teachers was 30.8 credits (range of 0.0 to 80.0 credits). The total number of credits completed including all 13 teachers' credits were 400.0 credits. Explanations of this phenomenon are strictly hypothetical in nature. However, a possible explanation is participating teachers may have given less care and attention to the detailed intervention wording and subsequent intervention script steps. Therefore, they may have assumed that they had worked with similar interventions thus reading only part of the intervention summary.

In Table 12, age was dichotomized for statistical analysis into two levels being teachers with zero to less than ten years of teaching experience and teachers with greater than ten years of teaching experience. The reason for dichotomizing was the fact that there was a significant range of years of teaching experience being two years to 25 years (range of 23 years of teaching experience). Dichotomizing into two groups, being a high and a low group, assisted with reducing the impact of the outliers. There were nine teachers in the zero to ten years experience group; there were four teachers in the greater than ten years experience group. Total number of graduate credits was also dichotomized into two groups with zero to 23 graduate credits as the low group and above 24 graduate credits completed successfully as the high group. Twenty-four credits was a logical cut-point as Pennsylvania teachers are required to complete 24 graduate credits within their first five years of teaching.

Similar rationale existed for this particular procedure since the range of graduate credits was extreme with a lower limit of zero graduate credits and upper limit of 80 graduate credits (range of 80 graduate credits). Again, dichotomizing into two groups being a high and low group assisted with reducing the impacts of the significant range and the outliers. Although, strong caution is warranted with all interpretation related to this research project because of the low sample size of only 13 teacher and 13 student participants.

Table 10

Correlational t-Tests Used in Analyzing Relationships Between Student On-Task Rates and Teachers' Years of Experience Related to Research Questions Five and Six (n = 13)

DESCRIPTIVE STATISTICS - - - - -

<u>Variable</u>	<u>n</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>
Baseline 1	13	62.1	11.9	40.0-79.0
Phase 1	13	87.3	4.1	78.0-94.0
Phase 2	13	91.9	6.4	73.0-99.0
Phase 3	13	92.4	6.1	82.0-98.0
Baseline 2	13	90.1	6.5	82.0-98.0

CORRELATION MATRIX - - - - -

Teacher							
	Years	Base-				Base-	
	of	line	Phase 1	Phase 2	Phase 3	line 2	Teacher
	Exper-	On-Task	On-Task	On-Task	On-Task	On- Task	Graduate
<u>Group</u>	<u>ience</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>Credits</u>
Teacher	1.000	.301	.174	-.232	-.343	.266	.814
Years of		p=.318	p=.569	p=.446	p=.251	p=.380	p=.001
Experience							
Baseline		1.000	.483	.434	.566	.916	.092
On- Task			p=.095	p=.138	p=.044	p<.001	p=.764
Rate							

Phase 1	1.000	.344	.330	.513	.189
On- Task		p=.250	p=.271	p=.073	p=.537
Rate					
Phase 2		1.000	.836	.405	-.461
On- Task			p<.001	p=.170	p=.112
Rate					
Phase 3			1.000	.630	-.603
On- Task				p=.021	p=.029
Rate					
Baseline 2				1.000	-.016
On-Task					p=.958
Rate					
Teacher					1.000
Graduate					
Credits					

Table 11

Correlational t-Tests Used in Analyzing Relationships Between Student On-Task Rates and Teachers' Number of Graduate Credits Completed Related to Research Questions Five and Six (n = 13)

DESCRIPTIVE STATISTICS - - - - -

<u>Variable</u>	<u>n</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>
Baseline 1	13	62.1	11.9	40.0-79.0
Phase 1	13	87.3	4.1	78.0-94.0
Phase 2	13	91.9	6.4	73.0-99.0
Phase 3	13	92.4	6.1	82.0-98.0
Baseline 2	13	90.1	6.5	82.0-98.0

CORRELATION MATRIX - - - - -

		Base- line	Phase 1	Phase 2	Phase 3	Base- line 2	Teacher Years of
<u>Group</u>	<u>Credits</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>Rate</u>	<u>ience</u>
Teacher	1.000	.092	.189	-.461	-.603	-.016	.814
Graduate		p=.764	p=.537	p=.112	p=.029	p=.958	p=.001
Credits							
Baseline		1.000	.483	.434	.566	.916	.301
On-Task			p=.095	p=.138	p=.044	p<.001	p=.318
Rate							
Phase 1			1.000	.344	.330	.513	.174
On-Task				p=.250	p=.271	p=.073	p=.569
Rate							
Phase 2				1.000	.836	.405	-.232
On-Task					p<.001	p=.170	p=.446
Rate							
Phase 3					1.000	.630	-.343
On-Task						p=.021	p=.251
Rate							
Baseline 2						1.000	.266
On-Task							p=.380
Rate							

Teacher	1.000
Years of	
Experience	

Table 12 below depicts the dichotomized data sets for both independent variables of years of teaching experience and teacher graduate credits. Both variables were divided into two groups. Years of teaching experience was divided into zero to ten years and more than ten years. No significant relationships or correlations were indicated. Teacher graduate credits were divided also into two groups with one group of less than 24 graduate credits and the other group being greater than 24 successfully completed graduate credits.

Correlation analysis and dependent sample t-tests in combination with use of descriptive statistics analysis revealed that there were no significant relationships or correlations between years of teaching experience and student on-task behavior, and graduate credits and student on-task behavior during the research study. This means that the hypotheses in research questions five and six were rejected. In other words, greater years of teaching experience and a greater number of successfully completed graduate credits completed by teachers did not correlate with the increases in student on-task behavior rates.

Table 12

Dependent Sample t-Tests for Questions Five and Six Related to Years of Teaching Experience, Teacher Graduate Credits Earned, and Student On-Task Rates (n = 13)

Grouping - Teacher Years of Experience									
<u>Phase</u>	<u>Dichotomized</u>	<u>n</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>	<u>r</u>	<u>eta</u>	<u>t</u>	<u>p</u>
Baseline	0 less than	9	60.8	12.3	40.0 -				
On-Task	10					.17	.03	-.57	.579
Rate					77.0				
	1 greater	4	65.0	12.2	52.0 -				
	than 10				79.0				
Phase 1	0 less than	9	87.2	4.7	78.0 -				
On-Task	10				94.0	.03	<.01	-.11	.916
Rate	1 greater	4	87.6	3.0	84.0 -				
	than 10				90.0				
Phase 2	0 less than	9	93.0	2.9	89.0 -				
On-Task	10				97.0	-.28	.07	.97	.355
Rate	1 greater	4	89.3	11.4	73.0 -				
	than 10				99.0				
Phase 3	0 less than	9	94.0	3.6	90.0 -				
On-Task	10				98.0	-.41	.16	1.49	.164
Rate	1 greater	4	88.8	9.6	80.0 -				
	than 10				98.0				
Baseline	0 less than	9	89.6	6.7	82.0 -				
2 On-Task	10				98.0	.14	.02	-.48	.641
Rate	1 greater	4	91.6	6.9	83.0 -				
	than 10				98.0				

Table 12 Continued

Grouping - Graduate Credits Earned									
<u>Phase</u>	<u>Dichotomized</u>	<u>N</u>	<u>Mean</u>	<u>S.D.</u>	<u>Range</u>	<u>r</u>	<u>eta</u>	<u>t</u>	<u>p</u>
Baseline On- Task Rate	0 0-23 credits	3	52.0	11.1	40.0 - 62.0	.48	.22	-1.82	.096
	1 24 and more credits	10	65.1	10.9	51.0 - 79.0				
Phase 1 On- Task Rate	0 0-23 credits	3	86.3	1.5	85.0 - 88.0	.14	.02	-.46	.658
	1 24 and more credits	10	87.6	4.6	78.0 - 94.0				
Phase 2 On- Task Rate	0 0-23 credits	3	91.0	2.6	89.0 - 94.0	.08	.01	-.25	.808
	1 24 and more credits	10	92.1	7.3	73.0 - 99.0				
Phase 3 On- Task Rate	0 0-23 credits	3	92.3	2.5	90.0 - 95.0	.01	<.01	-.02	.988
	1 24 and more credits	10	92.4	7.0	80.0 - 98.0				
Baseline 2 On-Task Rate	0 0-23 credits	3	86.7	3.2	83.0 - 89.0	.30	.09	-1.06	.312
	1 24 and more credits	10	91.2	7.0	82.0 - 98.0				

First and foremost, it is important to understand the obvious limitation of the sample size of this research project. With a population of 50 students who were identified as possible participants in this project, only 13 students and teachers participated in the project. This was due to a low return rate of the student consent forms even in the presence of multiple consent form mailings. This low sample size negatively impacts and severely limits the power of any significant findings.

Summary

In this chapter, the research questions exploring relationships between student on-task behavior, treatment integrity of the self-monitoring intervention designed to increase student on-task behavior, and the impacts of the number of years teaching experience and graduate credits earned by participating teachers were statistically evaluated. The methods of statistical analysis included dependent variable paired t-tests and within sample correlations.

Findings that were most impressive were that the thirteen participating teachers implemented the intervention with 100% treatment integrity by phase two, being weeks five and six of the intervention. In essence there was a direct positive effect realized both with treatment integrity rates and student on-task rates/percentages once scripted intervention steps were provided to the teachers. Although the increase in student on-task rates is not terribly surprising as a general finding, what is atypical is that the teachers implemented the intervention steps accurately 100% of the time.

Additional findings that were substantive included the overall

increasing trends in student on-task rates throughout the research project were not correlated in any way with the number of graduate credits or years of teaching experience which were hypotheses indicated at the onset of the study. One of the most interesting outcomes of this research project was the fact that average on-task rates during the baseline phase, being two weeks of observation of student on-task behavior prior to the intervention implementation, was only 62% which then increased to an 87% average on-task rate during the phase one, being weeks three and four. In other words, an average increase of 25% on-task occurred with the thirteen students by simply providing the participating teachers with a one-page summary of the intervention in the absence of scripted intervention steps. Average student on-task rates then increased to 92% during phase two and stayed at 92% during phase three of the study. Overall, participating students benefited significantly from this study because the average student on-task rate stayed at 90% during the return to baseline phase, being the final two weeks of this study.

Although student on-task rates increased significantly during the self-monitoring intervention which was of benefit to both student and teacher participants, the hypotheses that a higher number of teacher graduate credits and a greater number of teaching years of experience would be positively correlated with student increases in on-task rates was entirely null and inaccurate. There are several potential reasons that this may be the case such as the fact that when scripted interventions are ten or less steps and very simply stated, the amount of experience and training/education is not as important as one might

think. Whatever the reason for this occurrence, these two research questions are potential areas for future research and exploration.

Last, there were several limitations and barriers present during the research project. In review of these limitations and complications, the small sample size of both teacher and student participants was a significant problem thus limiting both the strength of power of the results, weakening the conclusions, and compromising the ability to generalize across classrooms, elementary schools, and the school district at large. Second, the fact that teachers implemented the intervention with 100% treatment integrity removed the necessity for additional consultation and the ability to explore whether consultation part-way through the study would impact both teacher treatment integrity rates and student on-task rates. Third, the research project extended through both Thanksgiving and winter break because there were delays in parent returning of permission to participate which required multiple mailings. Therefore, there was an unplanned break in teacher and student intervention implementation. One possible solution to this problem would have been to possibly delay the entire study until after the duration of the winter break or recess. However, there still would have been a break in the study at the time of Easter and/or spring recess. Although not specifically evaluated, it is possible that this may have reduced student on-task rates later in the study, although the final two phases of student on-task rates were slightly above 90% even with the break in the study.

Last, lack of inter-rater reliability may have had some negative bearing on the results because only one consultant was observing a

student-teacher dyad throughout the entire ten weeks of the study. This was likely off-set though by the observer effect of the students and teachers both being observed thus helping to ensure high rates of treatment integrity as well as high levels of student on-task behavior. In retrospect, it may have helpful to develop a method within the design of the study to enable the consultants to observe different student-teacher dyads throughout the study through a random sample procedure.

Inter-rater reliability may also have been implemented in the context of utilizing a different observation tools to compare student on-task rates such as the Behavior Observation of Students in Schools and the Saudargas-Creed observation system which allows for observation of student behaviors that are aligned with frequency counts. These methods are further described in Chapter V of this research project.

CHAPTER V

DISCUSSION

Introduction

In this study, treatment integrity, the extent an intervention is applied in accordance with specific intervention steps, was studied. Previous research has indicated the importance of acceptable rates of treatment integrity in the context of research-based interventions. For the purposes of this study, acceptable rates were deemed as being 98% or higher because there were a total of 10 intervention steps in the applied self-monitoring intervention, and missing one of the intervention steps was likely to adversely impact the outcome of the intervention.

However, just as important as maintaining high treatment integrity rates when applying behavioral and academic interventions, is "providing an operational definition of the independent variables that are present within an intervention" (DiGennaro and Reed, 2007, p.659). Within this study, dependent and independent variables were defined as student on-task rates and the well-defined components of each phase of the intervention respectively. According to a meta-analysis conducted by McIntyre, Gresham, DiGennaro, and Reed, (2007) there is room for improvement in the area of treatment integrity, although modest strides have been made over the past 30 years. Thus, the intent of this study was to contribute to the existing body of well-documented treatment integrity literature, and also to discover additional factors that may contribute to increasing treatment integrity rates within interventions that are applied in the public school setting. Factors that were explored included the implementation of concise and specific intervention steps, consultation, and the years of experience

and education of the teaching professional. Consultation was to be studied at an intensive level during phase three of this study by providing two enhanced consultation sessions to teachers that exhibited treatment integrity rates below 98%. However, this did not occur as the participating teachers treatment integrity rates were at an acceptable 100% rate throughout the study.

Purpose of Study

The purpose of this study was to determine: 1) the impact of scripting and consultation on student on-task behavior rates, 2) whether there were significant correlations between on-task behavior rates of participating students and teacher implementation rates, 3) whether there were significant correlations between intervention scripted intervention steps being provided and student on-task rates, 4) whether enhanced consultation sessions improved treatment integrity rates, and 5) whether there was a relationship between years of teaching experience/graduate credits earned and student on-task behavior. These independent variables were studied in the context of a student behavioral intervention involving self-monitoring designed to increase student on-task rates and increase teacher treatment integrity rates if necessary.

The specific research questions that were explored included:

1. Were student on-task rates below 80% (to determine consistency between baseline rates and phase one rates) in the absence of scripted intervention and consultation provided to the participating teachers?
2. Did student on-task rates increase to at least 80% in the cases where they were previously less than 80% in the presence

of the scripted intervention and teacher consultation?

3. Did the opportunity for enhanced consultation sessions increase successful teacher implementation rates to 98% or greater in the cases where teacher implementation rates were previously less than 98%?
4. Did on-task behavior rates increase to a higher rate as student grade level increased in the presence of the student self-monitoring intervention?
5. Was the student on-task rate higher for students who had teachers with more years of teaching experience?
6. Was the student on-task rate higher for students who had teachers with a higher level of education as defined by graduate credits of coursework?

Although other variables and research questions could have been investigated through this strand of research, such as the impacts of the sex of the participating teachers/students, the impact of the self-monitoring intervention on work completion and other aspects of academic performance, and the type of script being utilized (written or verbal), this investigator was primarily interested in the relationships between student on-task rates, treatment integrity rates, concisely written intervention scripts, expanded consultation if necessary, teachers' years of teaching experience, and the number of successfully completed graduate credits. These areas are infrequently explored in the research base in terms of their relationship with one another within the context of a specific, well-established self-monitoring intervention.

Interpretation of the Results

In summary, 13 participating teachers implemented the self-monitoring intervention with 100% treatment integrity throughout all four phases of the study. There was a positive relationship present between treatment integrity rates and student on-task rates/percentages once scripted intervention steps were provided to the teachers. Although the increase in student on-task rates was anticipated as an identified hypothesis prior to the study, teachers implementing the intervention steps accurately 100% of the time was unexpected and caused research question two to be modified.

Additional findings that were substantive included an overall positive trend of increasing student on-task rates throughout the research project and no relationship between the number of graduate credits earned by participating teachers and student on-task rates. Another unanticipated outcome of this research project was that average on-task rates during the baseline phase (two weeks of observation of student on-task behavior prior to the intervention implementation) were only 62.1% which then increased to an 87.3% average on-task rate during phase one (weeks three and four). In other words, an average increase of student on-task rates of 25.2% occurred including all 13 participating students by simply providing the participating teachers with a one-page summary of the intervention in the absence of scripted intervention steps. Average student on-task rates then increased from 87.3% to 91.9% during phase two and to 92.4% during phase three of the study. Most importantly, participating students benefited significantly by participating in this study since the student average on-task rate stayed at 90.1% during the phase two baseline (the final two weeks of this study).

Research Question One: On-Task Rates - No Scripted Intervention/Consultation

Question one involving initial pre-intervention student on-task behavior and rates was evaluated by calculating the mean on-task rates of all 13 students who participated in the research project. The hypothesis was that mean on-task rates would be below 80.0% prior to the implementation of the self-monitoring intervention inclusive of scripting and teacher consultation. The hypothesis was accepted as the mean on-task rate pre-intervention was found to be 62.1% indicating that students were on-task less than 80.0% of the time in the absence of the scripted self-monitoring intervention and teacher consultation. The decision was made to not remove one outlier mean on-task rate of a male student due to the minimal impact that it had on the descriptive statistics and normality. Research question one involving mean student on-task rates was consistent with the identified population as two of the criterion for inclusion were student on-task rates less than 80% and low grades as reflected in the Student Selection for Participation Matrix used at the onset of the research project. This is consistent with previous scholarly research that has indicated a significant relationship between students that are off-task/inattentive and academic performance (Finn and Cox, 1992).

Research Questions Two and Three: On-Task Rates with Scripted Intervention, Consultation, and Enhanced Consultation

Research questions two and three investigated whether increases in student on-task rates to at least 80.0% occurred with all student subjects who participated in the study in the presence of the one-page summary of the intervention being provided to the teachers (phase one) and then in the presence of the consultant-provided scripted intervention and teacher

consultation (phase two). Statistical analysis of the data determined whether increases in student on-task rates between baseline one and phase one, as well as phase one and phase two were significant.

Paired t-tests were conducted to evaluate whether there were significant increases in average student on-task rates between baseline and phase one as well as phase one and phase two. Statistically significant increases in mean student on-task rates occurred from the initial baseline to phase one and also from phase one to phase two. The average student on-task rates during the two-week baseline phase were 62.1% which then increased with the two-week onset of the self-monitoring intervention where the teacher was provided with a one-page summary of the intervention. During this two-week time period, average student on-task rates were calculated at 87.3%. During phase two, where the teachers were provided with the scripted intervention steps and consultation, average student on-task rate increases were statistically significant with a mean of 91.9%.

Paired t-tests revealed that there was a significantly statistic increase in average student on-task rates between baseline one (average student on-task rates in the absence of scripted intervention and teacher consultation) and phase one student on-task rates where the one-page intervention summary was provided to the teachers and phase two student on-task rates where scripted intervention and teacher consultation occurred. Significantly larger increases in student on-task rates were present between baseline and phase one with smaller, yet still significant increases present between phase one and phase two. Thus, although the second hypothesis was accepted in that scripting and consultation would have a positive correlation with on-task rates as the on-task rates would

be in excess of 80.0%, the more significant finding is the extent of the apparent relationship between provision of the one-page journal article summary to the participating teachers and the student on-task rates. In essence, student on-task rates improved to above 80.0% before scripting and consultation were even introduced.

These results in terms of the significant increases in student on-task rates in the presence of only the one-page summary being provided to the teachers is quite surprising given the prevailing body of research supporting the fact that scripting and consultation are empirically-based methods for increasing treatment integrity rates and student on-task rates within the context of student self-monitoring intervention. The results of research question two refute Jones, Wickstrom, and Friman's (1997) contention that intensive treatment integrity packages such as consultation and performance feedback are a pre-requisite for interventions to be effective and for high rates of treatment integrity to exist.

Research question three could not be fully explored as teacher treatment integrity rates did not drop below 100% and thus enhanced consultation sessions were not necessary. The hypothesis was ultimately rejected because teacher treatment integrity rates never dropped below 100% thus refuting Noell and Witt's (1999) claims that there is a disparity between what teachers say about their implementation of interventions and the extent to which they actually follow implementation guidelines with or without consultation. In summary of this researcher's findings, participating teachers self-reported accurately on the ten-step intervention script as they followed the intervention steps exactly as intended.

Research Question Four: On-Task Rates and Grade Level

Research question four explored the relationship between participating students grade level and on-task behavior rates. The hypothesis was that at higher elementary grade levels, such as grades four and five, student on-task rates would increase more significantly across the phases of the study. Hypothesis four was partially accepted as grade level increases were correlated positively with on-task rate increases during phase three of the study with a correlation of .836. Phase three included weeks five and six (when the teacher was already provided with the intervention, scripted intervention step checklist, and the student was utilizing the on-task self-monitoring intervention for a minimum of three weeks by that point of the study).

Higher grade level elementary students may respond more positively to self-monitoring interventions than lower level students as they become familiar and accustomed to the self-monitoring process more quickly, and they demonstrate more mature cognitive and meta-cognitive development. Also, this was possibly due to the fact that the higher grade level students more fully comprehended the concept of self-monitoring and thus adjusted effectively to the intervention due to their more advanced cognitive development. This is supported in research findings by Chapman (2003) that indicate there are significant relationships present between cognitive, behavioral, and affective development of school-age children and increases in the ability of students to understand and participate in self-monitoring type interventions successfully. As students' age and grade levels increase there are predictable increases in the ability to self-monitor and respond to off-task behavioral interventions of this kind.

Research Questions Five and Six: On-Task Rates and Teacher Experience/Education

Research questions five and six explored whether there were correlations between student on-task rates and years of teacher experience,

and student on-task rates and the number of graduate credits the 13 participating teachers successfully completed. The hypothesis for research questions five and six was that as years of teaching experience and graduate credits completed increased, student on-task behavior rates/percentages would increase. Thus, the fifth hypothesis was rejected as there was no presence of a positive or negative relationship between student on-task rates and years of teaching experience. In other words, although it was anticipated that teachers with greater years of experience would be correlated positively with higher student on-task rates, no such relationship was discovered.

The average years of teaching experience with the 13 participating teachers was 10.4 years. The results of this particular analysis lend support to the fact that teachers with varied years of experience can be just as successful in implementing student behavioral and academic interventions. Bettencourt, Gillett, Gall, and Hull, (1983) completed a comparative research project exploring differences between students' on-task behavior and achievement with teachers of varied experience implementing an intervention. Their research demonstrated that students teachers having only completed student teaching could implement interventions with at least similar and often better outcomes than teachers with significant teaching experience.

The number of graduate credits completed by participating teachers was slightly negatively correlated with phase three (or weeks five and six) of the research study. When teachers' level of education increased, the participating students' on-task rates decreased. The average number of graduate credits completed by the 13 participating teachers was 30.8

credits with a range of 0.0 to 80.0 credits. One hypothesis or possible reason for this occurrence is that participating teachers may have given less care and attention to the detailed intervention wording and intervention script steps and for example, may have modified the wording of the self-monitoring intervention. If this did in fact occur, this would underscore the related limitation of lack of inter-rater reliability present with this study. In either case, teachers' treatment integrity rates possessing a higher level of education remained at 100% since all steps of the intervention were implemented accurately according to teacher self-reporting and observer reporting, while students' mean on-task rates decreased slightly during weeks five and six of the study. Reasons for this occurrence would be highly speculative, but again a reasonable hypothesis is the lack of varied observers and multiple observations tools.

Limitations of the Study

There were several notable limitations within the context of this study and research project including low sample size, the timeframes in which the research was conducted, the lack of inter-rater reliability and the presence of possible observer side effects, or unintended consequences as result of a consultant being present during observations of both the teacher intervention implementation and student on-task behavior. Several lessons were learned through the process of conducting this research which could assist with more successful implementation and higher rates of reliability and validity if this study were to replicated as discussed below.

Sample Size

First, the sample size in this study was much lower than intended.

There were only 13 student and teacher participants. The reasons for this low sample size are several and complex, thus leading to the question as to whether this could be a potential area of research in itself. Multiple mailings of the parent permission occurred; yet, only 13 parents out of 50 returned the completed permission form. This was an unfortunate occurrence since this drastically reduced the reliability and validity of the findings, and eliminated all possibility of generalizing the results of this study to specific school buildings within the district and grade levels.

Given that a sample size of 30 students and teachers would have been the minimum acceptable sample size, all results are interpreted with caution. The low sample size also decreased the opportunities for the need to provide expanded consultation in cases where the teacher treatment integrity rates was lower than 98%.

Possible reasons for the low return rate of the parent permission include: the timing of the mailings of the parent permission (mailed during the first quarter of the academic year), the verbosity of the parent permission in spite of a lower reading level, and the fact that parent-teacher conferences had not yet occurred.

Solutions to the low return rate of the parent permissions include: waiting until later in the academic year such as the end of the second quarter, presenting parents with information and permission forms for their child to participate in the study at parent-teacher conferences, reviewing the permission form in person with the parent such as by reading it with them, providing additional opportunities for them to ask questions or voice concerns about the study, and using phone calls to the parents to follow-up

as to the status of the permission forms.

Timeframes

Unfortunately, the timeframe of this study was ten weeks, extending over both the Thanksgiving and winter breaks. This caused a break in intervention delivery of three school days for the Thanksgiving break and eight school days for the winter break. Although these types of breaks were virtually impossible to avoid since breaks involving missing school days typically occur at a minimum of every four to five weeks, this still is a variable that needs to be considered and accounted for in some way.

These breaks in the study may have impacted the self-monitoring intervention adversely by reducing the continuity and constant pattern of the student asking the self-monitoring questions daily as well as positive reinforcement could not be provided during these times. Research has demonstrated that at the very least cognitive-behavioral type intervention outcomes often do not meet desired expectations due to breaks that occur in the intervention due to student absences, appointments, and other factors that cannot easily be accounted for thus resulting in the student being delayed in receiving the designed intervention.

The best method for dealing with these breaks in intervention delivery appears to be making certain that at least the break occurs in between phases of a study. Another more difficult alternative would be to implement the self-monitoring intervention during summer school which often extends up to eight weeks. In any case, a break in intervention delivery occurred which may have impacted the dependent variables (student on-task rates and teacher treatment integrity rates).

Inter-Rater Reliability

Inter-rater reliability was unaccounted for within this study in terms of both measurement of on-task rates and treatment integrity rates. Inter-rater reliability in both areas could have been accounted for by having the observer consultants, being the Instructional Support Team aides, observe different teachers and students throughout the data collection process. A decision was made not to include this as part of the study due to the multiple tasks that the Instructional Support aides were required to complete including student on-task observation and observer script checklist completion. Another possible consideration would have been to include two different types of observation tools for assessing student on-task rates which again would have been more complicated procedurally in terms of requiring additional observations. Since there was only one person supervising the aspects of the data collection across four elementary buildings, it also would have been more challenging for this individual to coordinate these various efforts and tasks. In the interest of maintaining some degree of validity and reliability, having the consultant observers switch between different students and teachers was deferred. However, this does remain an area for additional research.

Observer Side Effects

As a limitation of this study, it is likely that there were positive observer side effects impacting both treatment integrity rates and student on-task rates as it was unlikely that students and teachers did not realize that their performance with the intervention was being observed by the consultant especially in lieu of the fact that they had signed consent forms to participate in the study. The positive impacts related to

interventions and consultation are endorsed by Jones, Wickstrom, and Friman (1997) in that participants in interventions are likely to increase their efforts to perform in accordance with the stated expectations of the intervention.

Again, it is likely that the participating students and teachers noticed that they were being observed. One cause for a high degree of certainty regarding this conclusion is that the consultant observers spent ten weeks in the classrooms of these participants. Although they would typically be present in several of the classrooms assisting students and teachers as part of their daily job requirements, during these observation times they would have been seated and writing as opposed to actually working with the students. It is likely that although the self-monitoring intervention was a strong impetus for increasing student on-task rates and maintaining high levels of teacher treatment integrity itself, rates may have been higher due to the presence of this individual in the classrooms. Therefore, the lack of inter-rater reliability is an unaccounted variable within this study.

Implications for Professionals

This study has several implications for practicing school psychologists, Instructional Support Team teachers, regular education classroom teachers, and school administrators in the implementation of both behavioral and academic research-based interventions. Most importantly, as stated above, those designing, selecting, and implementing interventions must operationally define the intended outcomes, independent and dependent variables, and understand the value and importance of providing a written script for those who will

be implementing the selected intervention because treatment integrity rates of such interventions are correlated with treatment outcomes. In essence, many well-designed and effective interventions succumb to the lack of effective and well-planned implementation.

Operationally defined variables, scripting of interventions, and teacher consultation significantly increase the likelihood of a well-implemented intervention and higher levels of treatment integrity. According to McIntyre, Gresham, DiGennaro, and Reed (2007), nearly half of 152 studies investigated were at high risk for treatment inaccuracies as only 30% of the studies reported treatment integrity rates. Furthermore, DiGennaro, Martens, and McIntyre (2005), reported that with a similar self-monitoring intervention, treatment integrity rates increased for four teachers who participated in their study as a result of the provision of sequential intervention steps and consultation when teachers missed or inaccurately completed the intervention steps. Thus, operationally defined independent and dependent variables and actual observation of the intervention being applied in the classroom setting are integral components of an intervention being applied accurately and students receiving the intervention as intended.

Another area for practicing professionals to consider is the aspect of student observation training. Within this study, the Instructional Support Team aides, as the consultant observers, were familiar with and accustomed to using the On-Task Rate Time Sampling Observation Form as this is a form that they use as part of their job activities. As part of their daily responsibilities they were responsible for observing and measuring student on-task rates.

However, in some school districts this may not be the case, and thus time sampling observation of student on-task rates training should not be overlooked. Training on the use of this type of observation tool should not be taken lightly and should take the form of instruction, observation, and inter-rater reliability practices.

Last, although not specifically explored as part of this study, professionals should bear in mind that the activities within the classroom may impact both the variables of student on-task rates and teacher treatment integrity rates. The intervention implemented within this study occurred only during large group instructional time and not during small group instruction or independent work time. The reason for the focus being placed on large group instruction exclusively was that the selected self-monitoring intervention selected from the research base was implemented successfully during large group instruction. Also, the academic instructional content was not limited to a particular area which those practicing in the field may consider.

Implications for Future Research

There are several implications for future research that developed through the course of this study. Implications for future research include: exploring methods of research to increase the return rate of parent permission forms, considering the significance of inter-rater reliability with this type of research, why teacher experience and graduate credits attained did not have a significant relationship with or impact on student on-task rates, whether other student on-task measurement tools and instrumentation would have yielded similar results, and whether increases or improvement in student on-task behavior rates and high

levels of teacher treatment integrity rates reduce the likelihood that a student would be further referred to the Instructional Support Team, Response to Intervention process, and/or special education evaluation.

Given the return rates of this study, the initial student sample in which parents are mailed parent permission forms would have needed to be approximately 125 students in order to have a return of 30 parent permission forms. If no other methods are available to obtain parent permission forms such as at parent-teacher conferences or through individual meetings, then a very large number of parent permission form mailings will need to occur with time for multiple mailings being allowed.

As both a limitation and guide for future professional practice, inter-rater reliability should be incorporated into the context of any research in which the observation of human behavior is involved. If this is compromised the actual accuracy of the observation of student on-task behaviors in the classroom may be undermined. It would be practical when enough staff and participants are available to have two consultants simultaneously observe both the student on-task behavior rates and teacher intervention step implementation for a period of twenty minutes.

The results of this study indicated very little correlation between teachers' number of graduate credits completed and student on-task rates. Significance was only found in relationship to phase three or C (weeks five and six) when teachers' number of graduate credits increased student on-task rates decreased. Reasons for this occurrence are only hypothetical because teacher treatment integrity rates remained

at 100%. There were no significant correlations between teachers' years of teaching experience and student on-task rates. In spite of limited relationships existing between both the teachers years of experience, graduate credits earned, and student on-task rates, this is an area for further research. However, it is important to note the significance of the relationships not found between student on-task rates and teaching experience and student on-task rates and graduate credits earned by teachers. In essence, within this study, it is demonstrated that treatment integrity rates and the outcomes of the selected intervention can be just as positive for teachers with two years of teaching experience and no graduate credits earned.

The sex of teacher and student is another area for future research. Teacher sex and student sex were not specifically studied as part of this research project as previous research has indicated that most elementary school teachers are female and the vast majority of students referred for interventions due to off-task behaviors are male. Also, existing research has indicated that sex of students and teachers is not a predictor of student performance related to on-task behaviors or actual academic performance/grades (Baker, Corbett, Koedinger, & Wagner, 2004).

In this study, student selected were mostly male. In terms of the sex of the participating students, there were three female (23.1%) and 10 male participants (76.9%). However, an unexpected finding was that there were more male teacher participants than previous research would predict. Four of the 13 participating teachers were males (30.1%) and nine were females (69.9%). In other words, there may be enough

male elementary teachers in some elementary schools to study the relationships between treatment integrity/intervention implementation and teacher sex. Credence is then given to studying the impacts and relationships that may occur between sex of the participating teachers, teacher treatment integrity rates, and student on-task rates within the context of future research endeavors.

The implications of using different or multiple observation tools are many. Such instrumentation as the State-Event Classroom Observation System (SECOS) developed by Saudargas and Creed (1980), for example, is a state-event observation tool which not only enables the accurate observation of student on-task rates, but also enables the observer to assess other quantitative data such the frequency of various off-task behaviors.

In essence, the SECOS provides opportunities for not just time sampling of on-task behavior at 15-second intervals, but also event occurrences. This may be beneficial if there are students participating that are demonstrating multiple, observable off-task behaviors such as calling out or getting out their seat. Again, multiple observation methods may also assist in increasing inter-rater reliability coefficients.

Last, an area that would lend itself to post-hoc analysis would be whether this type of a self-monitoring intervention that increases on-task rates in turn reduced the likelihood of IST referral and/or special education evaluation. One of the secondary goals and intended outcomes of the self-monitoring intervention applied in this study was that the student would improve their on-task rates which would then be maintained after the study resulting in the continuation of their

education in the least restrictive regular education setting. Future research in this area would assist in determining whether this type of intervention reduces the likelihood of Instructional Support Team and special education referrals. It would also be worthwhile to investigate whether higher student on-task rates correlate with reduced referrals.

Summary of the Study

The results of this study accentuate the importance of treatment integrity rates when applying empirically-based interventions. Much as such interventions are developed and designed within the context of a research design and scientific method, interventions should be implemented in a similar context.

Establishing and maintaining high rates of treatment integrity at 98% or higher was one of the primary goals of this study. Prior research has revealed that when an intervention is implemented in the absence of treatment integrity monitoring or a treatment integrity system of monitoring correct application of an intervention, treatment integrity rates are strikingly low resulting in decreased positive outcomes for students in the educational setting. In this study, teacher treatment integrity rates related to the implementation of the self-monitoring intervention were intended to be evaluated and hopefully improved through the course of enhanced consultation sessions for teachers whose treatment integrity rates dropped below 98%. However, this component of the study was essentially eliminated due to all participating teachers treatment integrity rates being at 100% throughout the phases of the study.

Phase four of the study (weeks seven and eight) was designed to provide expanded consultation to teachers that demonstrated treatment

integrity rates below 98%. Because this expanded consultation was not needed, research question two was subsequently altered to investigate more closely whether on-task rates were impacted during phase one of the study (weeks one and two) where the participating teachers were only provided with a one-page summary of the intervention and were asked to apply the intervention according to that protocol alone. One reason why the one-page summary of the intervention in isolation may have been so effective is that the teachers were aware that the parents had signed permission for their children to participate in the study which may have served as an additional measure of accountability. In sum, with a larger sample size, it is suspected that at least a few teachers would demonstrate treatment integrity rates below 98% on the ten-step intervention script.

Research has also consistently demonstrated that when interventions are applied with no monitoring, feedback, assistance, or teacher intervention implementation training, treatment integrity levels are quite low and positive student outcomes associated with an intervention are less likely to occur (Noell et al., 1997). Conversely, when treatment integrity protocols and monitoring occur in conjunction with teacher performance feedback in the application of an intervention, the likelihood of positive response to intervention increases.

Additionally, treatment integrity has been shown to increase when teachers are required to participate in additional consultation meetings due to low rates of successful intervention implementation (DiGennaro, Martens, & McIntyre, 2005). Unfortunately, this research question was unable to be investigated since participating teachers maintained treatment integrity rates of 100% across the phases of the intervention.

Consistent with previous research, this study reinforces the value of treatment integrity measures and scripted interventions. Although a causal relationship cannot be declared within this study, the use of scripted intervention steps may have been a contributing factor in teachers maintaining high levels of treatment integrity. This occurrence is likely due to the fact that not only were teachers provided with a simple list of steps to follow, but they the scripted intervention steps also served as a positive reinforcer affirming their accurate implementation of the intervention steps that they derived from the one-page summary provided to them during the first phase of the study.

Increases in student on-task rates occurred with all participating students through the course of the study. All students' on-task rates increased to and then exceeded an acceptable rate of 80.0% thus meeting the goal of the self-monitoring intervention. Participating students' average on-task rates remained at a high level even once the intervention was discontinued during the return to baseline phase (the last two weeks of the study). Teacher treatment integrity rates were maintained at 100% for all 13 teacher participants throughout the entirety of the project. Likely reasons for these outcomes are the ease of use of the ten-step self-monitoring intervention and the fact that the correct sample of students was selected for participation in this intervention designed to increase on-task behavior rates.

Consistent with previous research conducted by Heins, Lloyd, and Hallahan (1986), Harris (1986), Gangestad and Snyder (2000), self-monitoring of on-task behavior by the students themselves within this study has served as an effective intervention for increasing student on-task

behavior rates in all thirteen cases. Reid (1996) further supports the use of self-monitoring to improve student on-task rates as he states that "the effects of self-monitoring of on-task behaviors are robust, have been demonstrated across differing age levels and instructional settings, and have resulted in positive behavioral outcomes in 22 out of 23 studies that were analyzed."

Lastly, this study provides the impetus for further exploring potential relationships that may exist between the sex of teachers and student on-task rates, the sex of students and their own on-task rates, self-monitoring interventions and sex/grade level, the level/amount of teacher education/years of teaching and experience and student on-task rates as well as the implementation of inter-rater reliability instrumentation and methods. Investigators conducting further research in these areas are encouraged to pay particular attention to sample size, inter-rater reliability methods and techniques, observation instrumentation, and challenging time constraints in relationship to the public school calendar that may be encountered.

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APPENDICES

Appendix A - Student Selection for Participation Matrix

*** For a student to be eligible for participation in this research project, they must be an elementary school student in 2nd through 6th grade, with a baseline on-task rate below 80% via direct observation, a grade below 70% in a major subject, and not be participating in a special education program. They may be participating in an IST process. Major subjects would include: reading, English, math, science, or social studies. If these criteria are met, then they are eligible for participation in this research project, and the informed consent form will be distributed to the parents/guardians. The first thirty students meeting the aforementioned criteria and with signed informed consent will be deemed as the participants.

<u>Student #</u>	<u>School</u>	<u>Grade</u>	<u>Age</u>	<u>Baseline On-Task Rate</u>	<u>Grade Below 70%</u>	<u>Spec. Ed.</u>
Example	JT Elem.	3 rd	9-4	60%	Yes	No
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Appendix B: Informed Consent for Participation Forms

Parent Informed Consent for Study Eligibility Determination

Your child is invited to be considered for participation in a research study. This study is being conducted by Chad B. Kinsey, doctoral student at Indiana University of Pennsylvania and school psychologist at Northern Lebanon School District. The following information is provided to assist you in making an informed decision whether or not to have your child participate. If you have any questions, please do not hesitate to contact Libby French, project consultant and Instructional Support Team teacher at Northern Lebanon School District. Her contact phone number is (717)865-2117.

Treatment integrity is a measure of how well specific intervention steps are followed. Teachers in this study will help students use a self-monitoring intervention by following specific steps to improve student focus and attention, which is on-task behavior. In addition, I will measure how well teachers are following the instructions and steps to help the students. I am requesting your permission to have your child's attention and focus observed and measured. This would occur for one week for a period of twenty minutes daily during direct instruction in their regularly scheduled classes. Instructional Support Team aides, who are Northern Lebanon School District employees, will be conducting the observations. If the results of the observations reveal that your child is on-task an average of less than 80% and they have a grade below 70% in one of their major subject areas, your child may be selected to be observed in the full eight-week study. Additional information and a consent form will be provided before your child would be included in the full eight-week study.

Your child's participation in this one-week observation is voluntary. You are free to have your child not participate in this one-week observation. You may have your child participate in the observation and choose not to have them participate in the full eight-week study. He/she may withdraw at any time without negatively affecting your child's relationship with the researchers, teachers, or other school personnel. If you choose to have your child observed, you may withdraw your child at any point. If you wish to have your child withdrawn, please contact the project consultant, Libby French, or inform your child's teacher. Upon your request to withdraw your child, all information pertaining to your child's participation in the observation process will be destroyed. If you choose to have your child participate, all information will be held in strict confidence. Your child's participation will have no bearing on their grade or other services they receive. The information obtained during this observation may be published in scientific journals or presented at scientific meetings. However, your child's identity will be kept strictly confidential.

If you are willing to have your child participate in these observations, please sign the statement on the following page. Then return the signature page to Northern Lebanon School District, c/o Libby French, 345 School Drive, Fredericksburg, PA 17026. Please keep this first page for your records. Thank you very much for your time.

Informed Consent Form (continued)

Doctoral Student Researcher:	Project Director:
Indiana University of PA	Dr. Mary Ann Rafoth/Dissertation Chair
Researcher: Chad Kinsey,	Indiana University of PA
Northern Lebanon School	Dep. Of Educational & School Psychology
District School Psychologist	246 Stouffer Hall
345 School Drive	Indiana University of Pennsylvania
Fredericksburg, PA 17026	Indiana, PA 15705
(717) 865-2117	(724) 357-2482

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to my child being a participant in these observations. I understand that information related to my child's participation in the observations is completely confidential. I have the right to withdraw my child at any time. I have received an unsigned copy of this Informed Consent Form to keep in my possession.

Child's Name (Please print): _____

Parent Name (Please print): _____

Parent Signature: _____

Date: _____

Phone number or location where you can be reached: _____

Best days and times to reach you: _____

I certify that I have explained in writing to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study. I have answered any questions that have been raised, and confirm the above signature.

Date

Investigator's Signature

Parent Informed Consent for Student Participation Form

Your child is invited to participate a research study. This study is being conducted by Chad B. Kinsey, doctoral student at Indiana University of Pennsylvania and school psychologist at Northern Lebanon School District. The following information is provided to assist you in making an informed decision whether or not to have your child participate. If you have any questions, please do not hesitate to contact Libby French, project consultant and Instructional Support Team teacher, at Northern Lebanon School District at (717)865-2117.

Treatment integrity is a measure of how well specific intervention steps are followed. The goal of this study is to find ways to increase students' on-task behavior rates and attention in class. A secondary goal is to measure treatment integrity, or how well the intervention steps are followed by the teacher. It is felt that your child's attention and focus will increase as a result of their participation in this study. However, this cannot be guaranteed. The goal is that their rate of focus and attention will increase to at least 80% during classroom instruction. Your child will be asked to answer some basic questions. An example would be, "Was I paying attention?" They will also be rated on the same questions by their teacher. The primary methods used in this study will include: direct classroom observation by a consultant who is a school employee, opportunities to learn strategies to increase focus and attention, and the self-monitoring intervention including the questions about attention. Your child will be rewarded with a prize for their participation at the end of the study. We hope they will learn methods for improving their attention and focus. There are no known risks or discomfort associated with participation in this study.

Your child's participation in this study is voluntary. You are free to have your child not participate in this study. He/she may withdraw at any time without negatively affecting your child's relationship with the researchers, teachers, or other school personnel. If you choose to have your child participate, you may withdraw your child at any point. If you wish to have your child withdrawn, please contact the project consultant, Libby French, or inform your child's teacher. Upon your request to withdraw your child, all information pertaining to your child's participation in this study will be destroyed. If you choose to have your child participate, all information will be held in strict confidence. Your child's participation will have no bearing on their grade or other services they receive. The information obtained in the study may be published in scientific journals or presented at scientific meetings. However, your child's identity will be kept strictly confidential.

If you are willing to have your child participate in this study, please sign the statement on the following page. Then return the signature page to Northern Lebanon School District, c/o Libby French, 345 School Drive, Fredericksburg, PA 17026. Please keep this first page for your records. Thank you very much for your time.

Informed Consent Form (continued)

Doctoral Student Researcher:	Project Director:
Indiana University of PA	Dr. Mary Ann Rafoth/Dissertation Chair
Researcher: Chad Kinsey,	Indiana University of PA
Northern Lebanon School	Dep. Of Educational & School Psychology
District School Psychologist	246 Stouffer Hall
345 School Drive	Indiana University of Pennsylvania
Fredericksburg, PA 17026	Indiana, PA 15705
(717) 865-2117	(724) 357-2482

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730) .

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to my child being a participant in this study. I understand that information related to my child's participation in this study is completely confidential. I have the right to withdraw my child at any time. I have received an unsigned copy of this Informed Consent Form to keep in my possession.

Child's Name (Please print): _____

Parent Name (Please print): _____

Parent Signature: _____

Date: _____

Phone number or location where you can be reached: _____

Best days and times to reach you: _____

I certify that I have explained in writing to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study. I have answered any questions that have been raised, and confirm the above signature.

Date

Investigator's Signature

Informed Consent Child Script

I would like you to be a part of a study if you want to. I am going to tell you about the study so you can decide if you want to be in it. You may ask questions if you have any. If you decide to be a part of this study, you may learn ways to listen better in class. If you want to be a part of this study, we will be working with you and your teacher. This study may help you to listen better in your classes.

Your parent(s)/guardian(s) know about this study to help you with listening in class. Your grades may get better because of your listening better in class. If you can answer a few questions about your attention each day, you will be able to earn a prize. The prize will be a gift certificate to either McDonald's or Wendy's.

You will not be harmed by being in this study. You do not have to be in the study if you do not want to. Your name and your grades will not be seen by anyone other than your teachers and parents.

If you would like to be a part of this study, please put your name on the bottom of this sheet. I have a copy of this form to give you to keep. Your parents have been given a form like it. If you do not want to be in this study, do not sign this sheet.

Doctoral Student Researcher:
Indiana University of PA
Researcher: Chad Kinsey,
Northern Lebanon School
District School Psychologist
345 School Drive
Fredericksburg, PA 17026
(717)865-2117

Project Director:
Dr. Mary Ann Rafoth/Dissertation Chair
Indiana University of PA
Dep. Of Educational & School Psychology
246 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705
(724)357-2482

***If the child indicates verbally or in writing that they do not want to participate in this study, they will not be required to, even if parent consent has been provided to participate.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Student Name

Date

Teacher Informed Consent Form

You are invited to participate in this research study. It is being conducted by Chad B. Kinsey, doctoral candidate at Indiana University of Pennsylvania and school psychologist at Northern Lebanon School District. The goal of the study is to increase student on-task behavior and increase treatment integrity rates. Treatment integrity is defined as a measure of how well specific intervention steps are implemented as intended. Treatment integrity rates are calculated by dividing the total number of intervention steps by the number of intervention steps successfully implemented. Student intervention will be applied in the form of self-monitoring. The intervention involves the student completing a brief checklist with four questions thus indicating their perception of their focus and attention during direct instruction.

The primary methods utilized in this study will include: direct classroom observations by consultants who are district employees, intervention step checklists, a student self-monitoring intervention, and consultation. The purpose of this study is to increase both student on-task behavior rates to at least 80%. A secondary goal is to increase teacher intervention treatment integrity rates to at least 80%. Benefits resulting from this study include: opportunities to learn about observational methods, scripted interventions, and self-monitoring. Your student(s) may also benefit by increasing their on-task behavior rates. Previous research has shown a positive correlation between attention and academic performance. There are no known risks to participating in this study. No compensation will be provided.

Your primary responsibilities as a participant in this study will be to implement a scripted intervention designed to increase student on-task behavior, follow a ten-step intervention checklist marking each step as you have completed it, and rating the student participating in the intervention. You will be rating students related to four questions utilized to increase student on-task behavior such as , "Was I paying attention?" You may also be asked to participate in a follow-up consultation session to review the steps of the intervention. The complete study will last a total of eight weeks.

Your participation in this study is voluntary. You are free to choose not to participate in this study, You may withdraw from the study at any time without consequences. Your participation in this study and performance in the administration of the self-monitoring intervention has absolutely no bearing on your annual teacher rating or employment in the district. If you choose not to participate or withdraw from the study, you will lose no benefits to which you are otherwise entitled. At any point in time you may choose to withdraw from the study. If you choose to withdraw, you should notify the project consultant, Libby French. Upon your request to withdraw from the study, all information pertaining to your participation will be destroyed. If you choose to participate, all information will be held in strict confidence. The information obtained in this study may be published in scientific journals or presented at scientific meetings. However, your identity will be kept strictly confidential.

If you are willing to participate in this study, please sign the statement below, Then simply return your completed form to Libby French, Instructional Support Team teacher at Northern Lebanon School District who is the project consultant at your building. Please keep a copy for your records. Thank you very much for your time and consideration of this important project.

Doctoral Student Researcher:
Indiana University of PA
Researcher: Chad Kinsey,
Northern Lebanon School
District School Psychologist
345 School Drive
Fredericksburg, PA 17026
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Project Director:
Dr. Mary Ann Rafoth/Dissertation Chair
Indiana University of PA
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This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Teacher Informed Consent Form (Continued)

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to be a participant in this study. I understand that information related to my participation in this study is completely confidential, I understand that I have the right to withdraw at any time. I have received an unsigned copy of this Informed Consent Form to keep in my possession.

Teacher Name (Please print): _____

Teacher Signature: _____

Date: _____

I certify that I have explained in writing to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, I have answered any questions that have been raised. I confirm the above signature.

Date

Investigator's Signature

Appendix C: Intervention Journal ArticleTreatment/Intervention Rationale:

Self-monitoring interventions are empirically-based interventions that have been shown to be effective in assisting students to improve their behaviors in educational settings such as to improve on-task behavior/focus, work completion, organizational skills and habits, and compliance with classroom rules. The selected self-monitoring intervention is aimed at assisting students in improving their on-task behavior during direct instruction in their regular education classrooms. Through a series of questions that students ask themselves just after direct instruction and through your monitoring of students' behaviors, the intent is for participating students to improve their on-task rates to at least 80%. Both self-assessment and self-monitoring strategies will be utilized through the course of this intervention.

Treatment Implementation:

On-task behavior, which is the measured construct, may best be defined as: looking at the teacher while they are talking, thinking about what the teacher was saying, completing any work that is given by the teacher, and following directions (overall compliance). The self-monitoring questions on the student self-monitoring form provide an opportunity for both students and teachers to evaluate student performance in these areas. Students will self-monitor their on-task behaviors by answering these questions one time per day for eight weeks. They will be rewarded for earning three reward slips which are earned by receiving three or more points per day. The self-monitoring paper should be placed in one of the upper corners of the participating student's desk and the student and teacher should complete the self-monitoring form as soon as possible after the instructional lesson. Students complete the self-monitoring form first, which is cued by the teacher by a tap on the desk at the end of the instructional lesson. Teachers should provide positive verbal reinforcement when the student self-monitors accurately, and constructive criticism when the student is not successful in meeting the daily goal of earning three or more points. The ultimate goal is for the elementary students to learn simple self-monitoring questions and techniques to improve the likelihood of improving their on-task rates.

Appendix D: Intervention Script

Elementary Building: _____

Consultant: _____

Teacher: _____

Date: _____

Time: _____

- _____ 1. Did the teacher give the student the self-monitoring behavior checklist/form?
- _____ 2. Did the teacher prompt the student to complete the behavior checklist/form?
- _____ 3. Did the teacher complete the student behavior checklist/form also?
- _____ 4. Did the teacher conference with the student regarding the results after the lesson?
- _____ 5. Did the teacher provide verbal praise to the student for matches on the checklist?
- _____ 6. Did the teacher provide feedback for ratings on the checklist which do not match?
- _____ 7. Did the teacher provide a reward slip if it is earned by the student?
- _____ 8. Did the teacher place the completed checklists/forms in the folder?
- _____ 9. Did the teacher complete the teacher ten-step intervention checklist/form?
- _____ 10. Did the teacher place the completed teacher ten-step intervention checklist/form in the folder?

Appendix E: Consultant Intervention Steps Checklist

Elementary Building: _____

Consultant: _____

Teacher: _____

Date: _____

Time: _____

- ____ 1. Did the teacher give the student the self-monitoring behavior checklist/form?
- ____ 2. Did the teacher prompt the student to complete the behavior checklist/form?
- ____ 3. Did the teacher complete the student behavior checklist/form also?
- ____ 4. Did the teacher conference with the student regarding the results after the lesson?
- ____ 5. Did the teacher provide verbal praise to the student for matches on the checklist?
- ____ 6. Did the teacher provide feedback for ratings on the checklist which do not match?
- ____ 7. Did the teacher provide a reward slip if it is earned by the student?
- ____ 8. Did the teacher place the completed checklists/forms in the folder?
- ____ 9. Did the teacher complete the teacher ten-step intervention checklist/form?
- ____ 10. Did the teacher place the completed teacher ten-step intervention checklist/form in the folder?

Appendix F: Student Intervention Self-Monitoring/Teacher Rating Form

Student Name: _____

Date: _____

Directions: Student circles one face per question. Then teacher circles one face per question.



= All of the time or most of the time. No reminders/cues needed.



= Some of the time. Student needed some reminders and cues.



= Very little. Many cues and reminders were needed.

STUDENT

TEACHER

1. Was I looking at the teacher when he/she was talking (on-task)?



2. Was I thinking about what the teacher was saying (on-task)?



3. Did I complete the work given to me by the teacher?



4. Was I following the directions?

Appendix G: On-Task Rate Time Sampling Observation Form

_____ (Date) _____ (Observer)

Students: 1 = _____ 2 = _____
(Name or Description) (Name or Description)

3 = _____ 4 = _____
(Name or Description) (Name or Description)

At the moment of observation:

+ = On-task (student was looking at assigned materials, teacher,
and/or had pencil in writing/erasing position, etc.)

o = Off-task (student was out-of-seat, looking around, handling a
non-academic object, etc.)

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Start Time: _____

Finish Time: _____

Appendix H: Consultant Script/Checklist Form

Consultant Training Session Checklist (Excerpt from Mortenson and Witt):

Elementary Building: _____

Consultant: _____

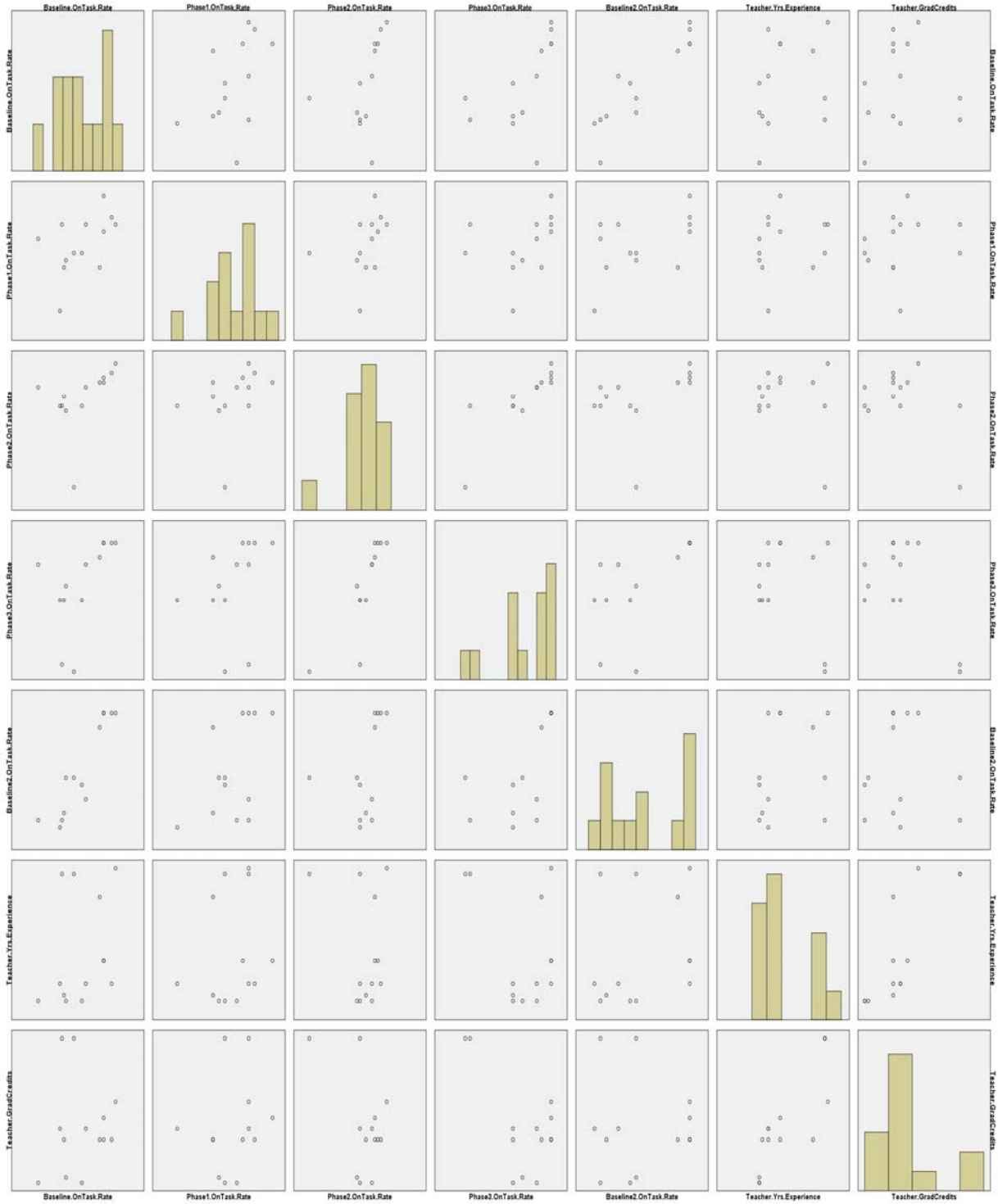
Teacher: _____

Date of Consultation: _____

Time of Consultation: _____

- _____ 1. The consultant described the intervention to the teacher including providing a copy of the intervention journal article summary.
- _____ 2. Each step of the intervention was described along with the rationale while emphasizing the importance of consistent application of the steps including marking each of the steps with a checkmark when each step is completed.
- _____ 3. The consultant gave the teacher the ten-step checklist and the student behavior checklist (self-monitoring intervention).
- _____ 4. The consultant answered teacher questions if there were any.

Appendix I: Histogram Depicting Normality of Samples



Indiana University of Pennsylvania Institutional Review Board
for the Protection of Human Subjects

Human Subjects Review Protocol

1. Principal Investigator:

Name: Chad B. Kinsey, MS, NCSP **Department:** Educational and
School Psychology

Position/Rank: Doctoral Candidate at Indiana University of
Pennsylvania

Email Address: hbcdj1@comcast.net

Address: 857 Tilden Road
Mohrsville, PA 19541

Phone where you can be reached during the day: (717)865-2117

Date of Submission: 3/1/2007

2. Co-Investigator:

Name: Dr. Mary Ann Rafoth **Department:** Educational and
School Psychology

Position/Rank: Professor/Dissertation Chair

Office Phone: (724)357-2482

Address: Department of Educational and School Psychology
246 Stouffer Hall
Indiana University of Pennsylvania
Indiana, PA 15705

Email Address: mrafoth@iup.edu

Project Title: The Effects of Teacher Performance Feedback on
Treatment Integrity in Prereferral Intervention.

3. Check one: Thesis _____ Dissertation X
Faculty Research _____ Student Research _____
Staff Research _____

Dates during which project will be conducted:

From April, 2007 To April, 2008

4. A. Project Funding Source: Check as many as apply:

 X Non-funded research

B. If grant funded, application deadline or date of transmittal: NA

5. Consider each of the following separately and place an X next to each to indicate that the information is complete.

 X A. PURPOSE, RESEARCH VARIABLES, AND POPULATION

Purpose of the study

The purpose of this study is to explore to what extent, if any, implementing a student self-monitoring intervention with scripted intervention steps to improve treatment integrity will effect an intervention positively by increasing student on-task behavior with regular education elementary students in the public school setting. Treatment integrity is broadly defined as the degree to which a treatment or intervention is implemented as planned (Gresham, 1989). Intervention scripts, intervention step checklists, and consultation have all been cited as contemporary methodologies for increasing the likelihood that students will receive interventions as designed or planned.

An additional component of this study is to investigate if consultation with teachers as participating subjects when treatment integrity rates are low will result in increased treatment integrity rates. In sum, this study seeks to provide evidence of the value of scripted intervention steps, the use of intervention step checklists, as well as self-monitoring and consultation to increase the treatment integrity of prereferral to special education interventions.

Background

Treatment integrity is broadly defined as the degree to which a treatment or intervention is implemented as planned according to protocol. Research has consistently demonstrated that when interventions are applied with no monitoring, feedback, assistance, teacher intervention implementation training, or consultation, treatment integrity levels decrease and interventions become less effective for students (Noell, Witt, Gilbertson, & Freeland, J.T., 1997). When treatment integrity rates are low and student outcomes suffer, it becomes difficult to determine the results of the interventions, whether specific interventions are appropriate for

target behaviors, whether the intervention design is effective or flawed, and whether students and teachers are making effective use of their time in attempting specific interventions.

In the past fifteen years, empirically-based studies involving teachers implementing interventions to improve student behaviors, have revealed that teachers implemented interventions as planned 4% of the time (Wickstrom, Jones, LaFleur, & Witt, 1998). A meta-analysis conducted by Gresham, Gansle, Noell, Cohen, and Roseblum (1993) examined treatment integrity of school-based intervention studies from 1980 to 1990 including 181 experimental studies in seven journals known for behaviourally based interventions. Their meta-analysis revealed that only 14.4% or 26 out of the 181 studies systematically measured and reported integrity data and only 35% or 64 of the 181 studies operationally defined treatments. Moderate positive correlations were found between degree of treatment integrity and level of treatment outcome. Further research by Noell and Witt (1997) stated that a meta-analysis of 46 studies involving interventions revealed that only 6.5% used direct observation and 24% used assessment of consultation as a means for ensuring accurate intervention implementation. Yet, when observation was utilized as a method for assessing treatment integrity, teacher treatment integrity intervention implementation rates increased to an average of 70%. Furthermore, a study conducted by Witt, Noell, LaFleur, & Mortenson (1997) indicated significant gains with the use of treatment integrity monitoring ranging from 42% to 94% successful intervention implementation.

Additionally, as important as monitoring treatment integrity rates appears to be through scripted interventions, intervention step checklists, and consultation, there appear to be some additional methods for increasing treatment integrity rates and the likelihood that teachers will execute interventions according to protocol. DiGennaro (2005) most recently explored the use of additional consultation sessions to increase the likelihood of accurate treatment intervention step implementation when treatment integrity rates were below set expectations. This use of additional consultation sessions was viewed as a method for assisting teachers who were struggling with or misunderstanding a portion of the intervention protocol.

The use of an intervention script (Appendix D), intervention step checklists, direct observations of both student on-task behavior (Appendix G) and consultant intervention step checklists (Appendix E) in combination with consultation (Appendix H) will be utilized in this study to ensure the likelihood of successful self-monitoring intervention (Appendix F) implementation and increased student on-task behaviors as a result of the self-monitoring intervention. Self-monitoring interventions have been reported as strong interventions as indicated by Harris, Graham, Reid, McElroy, and Hamby (1994). Student self-monitoring via answering questions specific to observable student behavior in written format, such as on-task behavior, has been particularly successful as a contemporary intervention. According to Reid (1996) the effects of self-monitoring of on-task behaviors are robust, have been demonstrated across differing age levels

and instructional settings, and have resulted in positive behavioral outcomes or reactivity in 22 out of 23 studies that were analyzed.

Based on the previous studies and research related to self-monitoring of on-task behavior, the importance of treatment integrity monitoring, and consultation as a method for increasing intervention implementation treatment integrity rates, the following research questions have been posed:

- 1) With students demonstrating on-task behavior rates below 80% in the absence of intervention, will on-task behavior rates remain below 80% once the self-monitoring intervention is implemented in the absence of a scripted teacher intervention step checklist and consultation?
- 2) With the same students, will on-task student behavior rates increase to 80% or greater with the implementation of a scripted teacher intervention step checklist and consultation?
- 3) In those cases where treatment integrity rates are below 80%, will consultation with the teacher subjects increase treatment integrity rates to 80% or greater?

Characteristics of the Subject Population

- A. **Age Range**: 7 - 12 years (students); adults (teachers)
- B. **Gender**: Males and females. There is no restriction to sex.
- C. **Number**: At least 30 student subjects and 15 to 20 teacher subjects are necessary in order to determine if student on-task rates are below 80% in the absence of the self-monitoring intervention, if scripted intervention step checklists guiding the student self-monitoring intervention will increase student on-task rates to 80% or greater, and whether the prospects of additional consultation sessions when treatment integrity is below 80% will improve treatment integrity rates to 80% or greater.
- D. **Inclusion Criteria**: (See Appendix A for Student Selection)
 - 1) Students must be enrolled as full-time elementary school students in the regular education program at one of four elementary schools in the Northern Lebanon School District. The four elementary schools are: Jonestown Elementary School, Fredericksburg Elementary School, Lickdale Elementary School, and East Hanover Elementary School.
 - 2) The elementary students must be in one of the following grades: second through sixth. They may be no younger than seven years of age and no older than twelve years of age.
 - 3) Students average on-task rate must be calculated as being

- less than 80% on-task over a period of one week as calculated through a daily twenty minute observation.
- 4) Students must have one or more grades below 70% in a major subject area including: reading, English, math, science, and/or social studies.
 - 5) Students are only enrolled in regular education programs.
 - 6) Teachers of selected students are included in this study.

E. Exclusion Criteria:

- 1) Students who are currently enrolled in special education programming because they are receiving individual and small group instruction and part of the purpose of the study is to increase on-task behavior during direct, large group instruction.
- 2) Cyber-school and home-school students as they cannot be fully and accurately observed during instructional times.
- 3) Students with average on-task behavior rates of 80% or greater during one week eligibility for participation observation.

F. Vulnerable Subjects:

- 1) Children will be utilized in this study as one of the purposes of the study is to increase student on-task behavior. Self-monitoring interventions have been effective within the current research base for children as young as first grade and are commonly used in elementary and secondary school settings to address behavioral challenges. Self-monitoring interventions are commonly used with children in the implementation of positive behavior intervention plans.

X **B. METHODS AND PROCEDURES**

Method of Subject Selection

Subjects will be selected from an available and convenience population of second through sixth grade students at four elementary schools in the Northern Lebanon School District in south-eastern Pennsylvania. All student subjects will be regular education students not enrolled in any special education programming. The student selection for participation matrix (Appendix A) will be utilized which includes the inclusion and exclusion criteria listed above.

Record reviews will be conducted by the Instructional Support Team teacher and consultant observers to determine grades and to ensure that the students are not in special education programming. Consultant observers, who are district Instructional Support Team aides and are trained in observation of on-task/off-task behavior, will be conducting the observations to determine eligibility of students for the study. One week

of twenty minute observations during direct instructional times will occur on each potential participating student. Appendix G, the On-Task Rate Time Sampling Observation Form will be utilized to determine if each student is on-task less than 80% of the time. A parent consent for determination of eligibility will be completed prior to student observations. All students meeting the criteria listed in Appendix A will be deemed as the participants.

Additionally, for these students to participate in the full eight week study their parents must sign the Informed Consent for Student Participation form and the students must be the recipients of the verbal script indicating that any child that refuses to participate will not be forced to. As teachers are also subjects in this research project, a teacher Informed Consent Form will also be utilized. These forms are included with this proposal (see attached).

Study Site

This study and intervention will be conducted at each of the four elementary schools in the district including: Jonestown Elementary School, Fredericksburg Elementary School, Lickdale Elementary School, and East Hanover Elementary School. The intervention will be delivered in regular education classrooms in these school building. The district superintendent, Dr. Don Bell, has approved this research project and is serving on the dissertation committee (see attached Letter of Approval: Dissertation Project).

Methods and Procedures Applied to Human Subjects

The "Student Selection for Participation Matrix" (Appendix A) will be utilized to identify 30 elementary students for participation in this study. The independent variables include the self-monitoring intervention (Appendix C), the intervention script and intervention steps checklist (Appendix D), the teacher/consultant intervention steps checklist (Appendix E), and consultant script/checklist (Appendix H) if necessary. The student intervention implementation will be measured via the Student Intervention Self-Monitoring/Teacher Rating Form (Appendix F). The teacher intervention implementation treatment integrity rate will be calculated via the Teacher Consultant Intervention Steps Checklist (Appendix E). Consultant observers will track on-task behavior rates throughout the study. They would engage in similar activities as part of their typical job responsibilities. Please find the aforementioned instruments attached to this document. The study will last a period of eight weeks with the study being comprised of four two-week phases identified as A, B, C, and D.

In phase A, the self-monitoring intervention will be used via presentation of the intervention in brief summary form to the participating teachers (see Appendix C). This will occur in the absence of the teacher intervention step checklist, the intervention script, and consultation. The intervention will be presented in small participating teacher groups at each elementary school by the Instructional Support Team teacher, Mrs. Libby French. During the first two weeks (Phase A), the self-monitoring

intervention will then be implemented and on-task behavior rates calculated for each student with the On-Task Rate Time Sampling Observation Form (Appendix G). The consultant observers will use Appendix G to measure on-task rates for a twenty minute interval daily throughout the eight week project.

In phase B, including weeks three and four of the study, the intervention script (Appendix D) is utilized by teachers as well as the teacher intervention step checklist in the presence of the self-monitoring intervention (Appendix F). The self-monitoring intervention (Appendix F) will be utilized in phases B and C only. At the end of the observed instructional activity or period, the teacher will have the student complete Appendix F by having the student rate themselves on the four on-task/attention questions. The ratings indicated on Appendix F include ratings of: all of the time, some of the time, and very little with more specific descriptions of these ratings on the form. The teacher will then rate the student on the same four questions. They will compare their results, and the teacher will provide a reward slip and verbal praise for matches on their ratings. These interactions will occur individually between one student and one teacher. Again, this will occur on a daily basis for a period of four weeks inclusive of phases B and C of the study. Observation by the consultant observers will be continued by using the On-Task Rate Time Sampling Observation Form (Appendix G) to determine student on-task rates. Teacher and consultant intervention step checklists will be used during phase B.

Phase C, inclusive of weeks five and six, include all aforementioned independent variables, with possible consultation by the Instructional Support Team teacher if necessary (if rates are less than 80%). At the end of week five, the treatment integrity rates on the consultant observer step checklist and teacher intervention checklists are communicated to the teacher indicating their treatment integrity rates. At the end of week five, if the treatment integrity rate is below 80% as indicated above, then a consultation session will occur between the Instructional Support Team teacher and the classroom teacher to review the intervention protocol, intervention steps, and to answer any questions or concerns that the teacher may have regarding the intervention steps. Week six will occur after this consultation meeting with the goal of increasing treatment integrity rates during week six. The teacher and consultant intervention step checklists (Appendix E) will be utilized in phases B and C, or weeks three through six, by the Instructional Support Team aides and the Instructional Support Team teacher.

Phase D, inclusive of weeks seven and eight of the study, include a return to baseline with no intervention or consultation present. Observations of student on-task behavior will occur with the On-Task Rate Time Sampling Observation Form (Appendix G) for the duration of the eight weeks by four instructional support team aides and the Instructional Support Team teacher.

Students will be rewarded with a gift certificate from McDonald's or Wendy's only for their participation in the study. There are no specific

rewards for teachers or parents of the participating students. Teachers may learn strategies for increasing student on-task behavior and related self-monitoring strategies and techniques.

The statistical analyses utilized in examining the data and determining the outcome of the hypotheses includes t-tests for the first hypothesis and Pearson correlations for the second and third hypotheses.

X C. RISKS/BENEFITS

Potential Risks

This research study involves minimal risks to the subjects. If a teacher withdraws from the study, there will be no impact on your child. He or she will be provided with a prize (McDonald's or Wendy's gift certificate) for their participation in the study. There is no dual role risk given the researcher works only at the secondary level in the school district and the study will occur exclusively at the elementary level. Data will be transferred to an anonymous database and will not be shared with any administrators in the building/district for evaluation purposes. There are no risks to teachers such as ramifications for not following the intervention steps or protocol. Beyond the time that it takes for participating students and teachers to complete the self-monitoring rating form questions daily, there are no foreseen physical, psychological, social, or legal risks from the proposed procedures and methodology. There are no long-range risks to the participants in this study.

Protection Against Risks

The risks related to dual role issues are being limited in that this researcher is using the Instructional Support Team teacher as the lead consultant and Instructional Support Team aides as additional consultants thus removing the researcher from interaction with any of the subjects throughout the duration of the research project. This researcher is employed at the secondary level, and all subjects and Instructional Support Team personnel are within elementary buildings.

Potential Benefits

Students participating in this research study will have an opportunity to learn self-monitoring strategies to improve individual behaviors such as increasing their attention and focus during instructional times in the classroom setting. The students will have an opportunity to increase their on-task behaviors to an acceptable rate of 80% or greater. Students will have an opportunity to learn methods to increase their on-task behavior rates, to learn how to self-rate their behaviors accurately, and to earn a prize for their participation.

Teachers will have an opportunity to learn an empirically based intervention for increasing student on-task behavior during instruction. They will also learn the importance of following specific steps of an

intervention protocol.

Last, it is anticipated that the results of this research will contribute to an existing body of literature surrounding the importance of treatment integrity and also the effects of scripted intervention steps, direct observation, and consultation and empirically-based intervention treatment integrity rates.

Compensation for Participation

There will be no monetary compensation for participation. All students will be rewarded for their participation at the end of the study with a choice of a prize given by their teacher thus maintaining confidentiality. These prizes will be a choice of a gift certificate to McDonald's or Wendy's. They will be funded by this researcher and given to the Instructional Support Team teacher to give to the teachers who then in turn will provide them privately to the students. The prizes will be provided to the students separately or privately away from non-participants after the school day thus eliminating the likelihood of identifiable participation in the study by non-participants. There are no other methods or procedures included within this study for compensating teachers or students.

Alternatives to Participation

NA

Information Withheld

NA

Debriefing

Teachers will be debriefed at the end of the intervention process regarding their success with the intervention steps. Students will be debriefed as part of the intervention process as they are provided feedback related to their success with the self-monitoring intervention. A summary of the results of the intervention and project will be offered to those that request it.

X D. CONFIDENTIALITY

No personal, identifying information about the participants will be published or made available to any agencies, including the district school board. Overall outcomes related to the hypotheses will be shared with the district school board at the conclusion of this project.

All the personal identifying information gathered about the participants will be kept in a locked filing cabinet, and will be retained for at least three years in compliance with federal regulations then will be destroyed. Only the principal investigator and consultants (these are

employees of the school district) assisting with the research will have access to this data.

 X **E. COPY OF CONSENT FORM**

Please see pages 11 through 14.

6. Protected Populations and Sensitive Subjects:

 X **Minors**

7. **Nature of Risk.** In your judgment, does your research involve more than minimal risk? Yes X No

8. In your judgment, does your research fall under one of the six exempt categories? If you believe it does, indicate the number of the category under which you are claiming an exemption.

 Yes X No

9. Does your project fall under one of the categories eligible for expedited review? If you believe it does, indicate the number of the category under which you are claiming expedited review.

 Yes X No

10. Additions to or changes in procedures involving human subjects as well as any problems connected with the use of human subjects once the project has begun must be brought to the attention of the IRB.

I agree to provide whatever surveillance is necessary to ensure that the rights and welfare of the human subjects are properly protected. I understand that I cannot initiate any contact with human subjects before I have received approval/or complied with all contingencies made in connection with the approval. I understand as the principal investigator I am ultimately responsible for the welfare and protection of human subjects and will carry out the project as approved.

Signature of the Principal Investigator

Date

Signature of Dissertation Chairperson/Faculty Supervisor

Date

FOR

COMMITTEE USE ONLY

DEPARTMENT COMMITTEE RECOMMENDATION

This project:

Poses minimal risk _____

Poses greater than minimal risk _____

Is Exempt from Continuing Review _____

Requires Expedited Review _____

Requires full IRBPHS Review _____

Signature

Date

IRBPHS:

Approve to proceed _____

Disapproved _____

Signature

Date