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Case study implementation: student outcomes as evaluated through a problem solving rubric

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CASE STUDY IMPLEMENTATION: STUDENT OUTCOMES AS EVALUATED
THROUGH A PROBLEM SOLVING RUBRIC

Thesis

Submitted to

The School of Education and Allied Professions of the
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In Partial Fulfillment of the Requirements for

The Degree

Educational Specialist in School Psychology

by

Julie Marie Rabatsky

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WE HEREBY APPROVE THE THESIS SUBMITTED

BY

Julie Marie Rabatsky

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Case Study Implementation: Student Outcomes As Evaluated Through A Problem Solving Rubric

AS PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

Educational Specialist in School Psychology

Chair

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ABSTRACT

CASE STUDY IMPLEMENTATION: STUDENT OUTCOMES AS EVALUATED THROUGH A PROBLEM SOLVING RUBRIC

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The purpose of the current study is to evaluate the extent of student outcomes as related to case study implementation integrity when following a procedural problem-solving rubric. Each of the five sections of the rubric was analyzed to determine whether the overall case study was implemented with integrity and demonstrated effective results. A total of 23 cases were collected (12 academic, 11 behavioral) and analyzed using a nonparametric binomial test. When the combined cases were analyzed, significance was found in Sections 2, 3, and 4, indicating when followed with integrity, a relationship is shown with effective interventions and positive student outcome. Overall, a combination of the procedural rubric to evaluate student outcomes with methodologies such as Response to Intervention can contribute to effective educational reform efforts.

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CHAPTER I

LITERATURE REVIEW

Modern educational reform is creating precedents at local, state, and national levels. Movements to continually improve education and monitor its effects on students have been set by government officials and organizations that work directly in education. The No Child Left Behind Act (NCLB) of 2001 is a national reform that focuses on three main issues: improvement of students' performance in elementary and secondary education through increased accountability for states, increased flexibility for state and local funding for education, and a focus on reading education especially at the elementary level (NCLB, 2001). Along with NCLB, there are many other reforms widely used by school systems such as Response to Intervention (RTI). With all of these reforms working together to improve education and student outcomes, procedures need to be considered to ensure that these reforms are implemented the way they are intended.

In school settings, the role of the school psychologist is "to intervene at the individual and system level, and develop, implement, and evaluate preventative programs...through conducting ecologically valid assessments and promoting

positive learning environments” (APA Division of School Psychology, 2005, paragraphs 1 and 2). It is through the collaborative assistance of the school psychologist and school educators that such reforms can be implemented to make certain students are receiving suitable and appropriate education.

However, when assessing at-risk students at the individual level, there is no standard procedure to follow when conducting a problem-solving approach. The use of a rubric or formalized set of procedures utilized by practitioners would further support the implementation of educational reforms and its effectiveness.

Many school districts implement a district-wide or school-wide Intervention Assistance Team (IAT). The purpose of this team is to bring together a wide variety of personnel within a school system to assist in identifying students who may be at risk academically or behaviorally. Typically persons who are involved in such a team include teachers, intervention specialists, occupational therapists, speech language pathologists, school psychologists, building principals, and so forth. Districts generally have protocol that is followed for identifying and monitoring the student at risk, but this can vary from district to district. In order to reduce variability and increase positive outcomes, standards and rubrics can assist in the implementation of educational reforms.

To implement a program with integrity means that certain procedures are followed and monitored to achieve the intended outcome of the program. In a model like RTI, the use of a problem solving rubric for case studies guide the procedure and allow for a measure of integrity of implementation. The use of a rubric or formalized set of validated procedures utilized by practitioners would

further support the implementation of educational reforms and potentially enhance their effectiveness.

Response to Intervention

Response to Intervention (RTI) is an educational reform that complements No Child Left Behind Act (NCLB) of 2001 and the Individuals with Disabilities Education Improvement Act (IDEA) of 2004. The purpose of RTI is to provide academic and behavioral supports early in a student's educational career, to prevent the child from becoming at risk and potentially avoid referrals for special education services. Brown-Chidsey and Steege (2005) stress the notion that "RTI is not about reducing the number of students eligible for special education services...RTI is about showing whether any intervention- general or special- achieves the goal of improving student outcomes" (p.20). The RTI model has long-term benefits for school districts, educators, and students, but the proper development of an RTI program is crucial to support effectiveness.

The RTI process is comprised of a three-tiered model where essential key elements are outlined that guide data-based decision making and problem solving efforts. The elements that make up the RTI approach include: providing scientific, research-based instruction and interventions in general education; monitoring and measuring student progress in response to the instruction and interventions; and using these measures of student progress to shape instruction and make educational decisions (Koltz & Canter, 2007). These elements are worked into every level of the three-tiered model.

According to the National Association of School Psychologists (NASP), “RTI refers to a process that emphasizes how well students respond to changes in instruction” (Koltz & Canter, NASP, 2007, p.1). To document and record whether students are responding to a change in instruction, progress-monitoring tools are used. Through the application of research-based instruction and the progress monitoring of students, this helps form and develop a change in instruction and/or decisions regarding educational environments for those students who are not responding. RTI can be an effective process when all of the elements are followed. Barnett, Daly, Jones and Lentz (2004) suggest the key elements of RTI be “combined into a comprehensive decision-making model within an appropriate evaluation framework” (p.67). Such a framework could be created utilizing the three-tiered model and elements of RTI in conjunction with the problem-solving process through a formalized procedural rubric. Barnett, Daly, Jones, and Lentz (2004) believe that “a key aspect of the development of any RTI model is the need for high-quality evaluation designs for decision making” (p.66) at all three tiers of the model.

The three-tiers that comprise the RTI model are the primary, secondary, and tertiary intervention levels or Tier I, Tier II, and Tier III, respectively. At the primary level, universal screening of students typically occurs. Normal classroom instruction is evaluated and local norms are collected in Tier I. In the secondary level, those students who did not respond to class-wide instructional and/or intervention efforts are placed into small groups with supplemental instruction. The tertiary level is where intense intervention is provided to those students who

did not respond to Tier II intervention efforts. These students are provided with intense assistance for a longer duration (Ardoyn, Witt, Connell, & Koenig, 2005). To date, there is no standardized set of procedural steps for practitioners to follow to complete individualized problem-solving for Tier 3 in the RTI framework. The focus of this study is to investigate the validity of a Tier III case study rubric that was developed to guide and monitor the problem-solving procedures used for students with academic or behavior problems.

Rubrics

A rubric is a model or scoring guideline that typically describes different levels of performance or achievement as measured through the accuracy of task performance (Karl, 2007). Rubrics can be developed through either a holistic or an analytic approach. Holistic rubrics are used when the overall process being evaluated is scored as a whole without looking at individual components separately. An analytic rubric is appropriate when the separate individual components of the process are evaluated based on certain criteria. A total score is obtained by summing each of the individual components (Karl, 2007).

Previous research has indicated that holistic rubrics are more subjective and analytic rubrics are more objective because analytic rubrics provide specific descriptions of how to score each section, therefore increasing inter-rater reliability (Karl, 2007). Additional research investigated whether training to utilize the rubric increased or decreased inter-rater reliability. Results indicated that there was no increase in inter-rater reliability between the experimental group,

those who received training, and the control group, those who did not receive training (Stuhlmann et al., 1999). Therefore, it is assumed that if a rubric is designed properly to measure what it is intended to measure, training would not be needed to utilize the rubric to evaluate a case study report.

When rubrics are created, the design, criteria, and format should be easy to navigate, while insuring that the content is understandable to all those who will utilize the rubric. This is to assure that rubrics can be used by a number of people across educational settings (Anderson & Pucket, 2003). A rubric would be useful when implementing the RTI model, especially when assessing individual case studies at the third tier. A problem-solving model would be adaptable to format an analytic rubric while fully incorporating the key elements of the RTI approach.

Problem-Solving Model

The problem-solving model is based on a foundation of information gathered about the referral question, which leads to the development of hypotheses to determine the function of the problem, and guiding procedures to link interventions with solutions identified during hypothesis testing (Merrell, Ervin, & Gimpel, 2006). Traditionally, the problem-solving model follows the scientist-practitioner approach to service delivery (Allen & Graden, 2002). When following the scientist-practitioner approach, "the practitioner relies on research to guide assessment and intervention decisions, and intervention choices are treated as testable hypotheses" (Allen & Graden, 2002, p.566). Overall, the

intention of the problem-solving model is to address problems related to both learning and behavior across all educational settings and focus on what can be changed to improve student outcomes (Merrell, Ervin, & Gimpel, 2006; Allen & Graden, 2002).

When the problem-solving model was initially introduced into school settings, progress and improvement were demonstrated in educational practices. However, most teachers and administrators lacked training in the problem-solving method. The method was also weak because the process was not driven by student outcome data (Tilly, 2008). Ultimately, the role of the psychologist in a school-based setting became a more critical role in facilitating accurate implementation of the problem-solving model through research-based practices.

The problem-solving process traditionally follows a four-step model consisting of problem identification, problem analysis, plan development and implementation, and evaluation (Allen & Graden, 2002). Researchers in the field have found that hypothesis testing, which is usually grouped in the second step of problem analysis, is a critical component of the problem-solving process (Batsche, Castillo, Dixon, Forde, 2008). Therefore, the case-study rubric employed in this study adopts a five-step problem-solving process with hypothesis testing falling between the problem-analysis and plan-development and implementation steps (S.A. Hunley, personal communication, March, 2007).

Problem Identification. The first step in the problem-solving model is to identify a specific problem. The main objective in this stage is to define and clarify concerns within the identified problem while addressing a target for

change (Allen & Graden, 2002). The target for change should define goals stated in observable and measurable terms that reflect desired replacement behaviors and will increase the student's probability of success (Batsche, Castillo, Dixon, Forde, 2008). Typical procedures performed during this step include consultation with teachers and parents, developing local norms, and reviewing and defining observable and measurable classroom goals.

Problem Analysis. The second step, problem analysis, focuses on why the problem is occurring. Christ (2008) states that the "primary purpose of problem analysis is to understand the salient characteristics of a problem and use that understanding to identify potential problem solutions" (p.159-160). During this step, data are gathered across numerous environments and from multiple sources to create hypotheses that will be used to determine a functional relationship between the problem and the environment (Allen & Graden, 2002; Merrell, Ervin, & Gimpel, 2006). The goal of this step is to establish a baseline using quantitative methods of measurement and to also collect qualitative information that suggests the presence of skill and/or performance deficits.

Hypothesis Testing. Hypothesis testing takes problem analysis one step further by generating hypotheses to determine why a problem is happening. It should logically link assessment to intervention (S. A. Hunley, personal communication, March, 2007). Batsche, Castillo, Dixon, and Forde (2008) recommend that hypothesis statements be written in the following format: When (the student) demonstrates (the target behavior), then, (the hypothesis will be evidenced) (p.179). Multiple hypotheses are generated to assess both skill and

performance problems to narrow the target cause of the problem. Hypotheses can be tested through direct observation, analogue assessment, functional assessment, and/or self-monitoring. Hypotheses should be a well-organized set of testable questions written in observable, measurable terms that could be supported or refuted before moving onto the next step (Christ, 2008). "This process explicitly and logically links assessment results with intervention programs, and ensures that these programs are not implemented until an explanation as to why a referred problem or situation is occurring has been found" (Knoff, 2002, p.1291).

Intervention Development and Implementation. During this stage, plans are developed to work towards finding an appropriate resolution to the problem. All of the information gathered in the previous steps is assessed collaboratively to identify an intervention that is associated with the supported hypothesis. Tilly and Flugum (1995) recommend four specific issues to be addressed prior to plan implementation: (1) frequency of data collection, (2) strategies that will be used to summarize data for evaluation, (3) number of data points required or length of time that should occur before data will be analyzed, and (4) decision-rule guidelines that tell what to do when certain patterns of data occur. It is important at this stage that the "interventions be logically related to the identified problem and to the reasons that the problem situation exists" (Allen & Graden, 2002, p.576). When selecting an intervention for the identified problem, it is best practice to select interventions that are supported by research and/or are empirically validated.

Evaluation and Recommendations. The final stage in the problem-solving model determines if the intervention plan is effective. If it is not, this is a good time to revise the intervention plan and/or adjust the goals when developing the intervention (Merrell, Ervin, & Gimpel, 2006). Continual progress monitoring occurs at this stage to judge the effectiveness of the intervention plan (Allen & Graden, 2002). The same procedures that were used to collect the baseline data during the problem-identification stage are used for progress monitoring (Upah, 2008). Procedures conducted during this stage may include goal attainment scaling (GAS), effect size, and treatment integrity.

The problem-solving process is widely used by practitioners in the educational system when assessing individual students who are at risk for academic and behavior problems. It is important, however, that the problem solving process is valid for producing effective results. Therefore, it is important that research is conducted to evaluate the effectiveness of utilizing specific problem-solving models with integrity when assessing students who are at risk academically or behaviorally to examine whether students experience positive outcomes from the approach.

Integrity

Integrity is a very important procedure to include throughout the problem-solving process. Integrity has been defined as the “the degree to which an intervention program is implemented as planned” (Gresham et al., 1993, p. 254). Intervention integrity, both in selection and implementation, is a crucial factor in

the use of an RTI model (Noell & Gansle, 2006). Intervention integrity can be more effective when procedural details are outlined. For example, individuals responsible for different tasks are identified, resources and materials are acquired, and interventionists are trained (Roach & Elliott, 2008). Upah (2008) reports that "there is currently no solid research indicating the degree of precision or how far one can deviate from a specific intervention plan and still obtain positive effects, it is reasonable to assume that the degree of integrity is related directly to the degree of student outcome as long as the intervention was a correct match to student needs" (p.218).

The current study investigates the validity that would be demonstrated if the prescribed problem-solving model which is followed as outlined in Appendix A, produces positive student outcomes. A valid case study rubric would assist practitioners when evaluating a student with academic or behavioral difficulties and increase that likelihood that the assessment and evaluation process yields positive results.

There has been little research demonstrating the relationship between student outcomes and the implementation of a specific problem-solving procedure. What research does exist questions the benefits of using a problem-solving approach, "the trajectory of the growth of students in special education has remained similar both before and after the implementation of a problem-solving system" (Ikeda et al., 2002, p.58). There could be many reasons for this ambiguity. For example, the problem solving procedure may not have provided a specific step-by-step method for implementation, or it may not have been

implemented with fidelity to the method. Thus it is important that research is conducted to determine whether a specific problem-solving procedure, when implemented with integrity, results in positive student outcomes. Therefore, the purpose of the study is to examine the relationship between problem-solving with a specific Tier III case study rubric and student outcomes.

CHAPTER II

METHOD

Recruiting and Selecting Participants

The participants in this study included graduate students from the University of Dayton completing their internship for the school psychology program. There were 15 students in the internship group for the 2007-2008 academic year. Of the students, 11 of the 15 elected to participate, yielding a 73% participation rate. Informed written consent was obtained from all the participants explaining that the study is voluntary and individuals can choose not to participate without penalty as well as discontinue their participation at any time (See Appendix B). The remaining four students did not participate due to out-of-state internship placements (1), a transient student from another university being supervised by UD (2), and failure to receive district permission to participate (1).

The interns were required to complete two case studies as a part of their school psychology internship. Therefore, each participant presented one behavioral and one academic case study. The interns worked with individual K-12 students in their intern setting. They were supervised by a licensed school psychologist from the district and by the university school psychology faculty. Parental consent was obtained for each case study, authorizing permission for

assessment, intervention, observation, interviews, and record review (See Appendix C). Further parental consent was obtained to notify the parent that a third party would be viewing the information regarding their child's evaluation for research purposes (See Appendices D-E).

Setting and Population

The data collected for this study were obtained by school psychology interns who were placed throughout central and southwestern Ohio school districts. The case-study students who were evaluated and assessed through either the problem solving rubric or IAT process represented 9 different school districts.

Materials

Case Study Evaluation Rubric. The case-study evaluation rubric (Appendix A) was developed based upon best practices in school psychology. The rubric is composed of five sections (local norms, problem identification and analysis, hypothesis testing, intervention, and evaluation and recommendations) and an overall rating section. Each section consists of criteria on which the case study is scored. The number of criteria varies across all five sections: local norms (4), problem identification and analysis (6), hypothesis testing (5), intervention (10), and evaluation and recommendation (12).

The case-study evaluation has five different rating levels: outstanding, substantially developed, competent, threshold development, and needs development. Table 1 provides descriptions of criteria ratings.

Table 1 Description of rubric scale ratings	
Rating	Description
Outstanding	All sub-sections in the competent and outstanding categories are checked.
Substantially Developed	All sub-sections in the competent category plus some components in the outstanding category are checked.
Competent	All sub-sections in the competent category are checked.
Threshold Development	Some sub-sections in the competent category are checked.
Needs Development	One or more of the sub-sections in the needs development category are checked.

Additionally, the case study is evaluated as an overall product based upon the following criteria: outstanding (case study is rated outstanding in all five sections), substantially developed (case study is rated competent or higher for all sections and substantially developed or higher in one or more sections), competent (all five sections of the case study are rated competent), threshold development (some but not all sections are rated competent), and needs improvement (one ore more of the sections is rated needs development).

A previous study was conducted to investigate the inter-rater agreement of the case-study rubric. The results indicated there was high inter-rater agreement between sections 3-5 and the overall rating section. However, sections 1 and 2 did not have inter-rater agreement; therefore, these sections were reviewed and adjusted to increase inter-rater reliability (Spires, 2006). The revised case-study rubric was utilized as a measurement tool for the current research.

Design

Two case studies, one academic and one behavioral, from each school psychology intern were evaluated. In addition, intervention results from a student that was evaluated through the district's IAT process was used as a comparison. Therefore, multiple case studies were aggregated for both fidelity to the problem-solving process, and for student outcomes.

Variables. The two variables were case-study integrity (independent variable) and student outcomes (dependent variable). Case study integrity was measured by reviewing the case-study report and rating it according to the requirements from the rubric. The student outcomes were measured through goal attainment scaling (GAS) and a calculation of the effect size. Each case was placed in one of 4 categories (Figure 1). Two categories were judged to confirm the hypothesis (high fidelity and high outcome, or low fidelity and low outcome). Two categories were judged to invalidate the hypothesis (high fidelity and low outcome, or low fidelity and high outcome).

Figure 1
Case Study Integrity x Outcome Effectiveness Matrix

<u>Category 1</u> High Integrity Effective Intervention	<u>Category 3</u> Low Integrity Effective Intervention
<u>Category 2</u> High Integrity Ineffective Intervention	<u>Category 4</u> Low Integrity Ineffective Intervention

Procedure

At the conclusion of the 2007-2008 academic school year, school psychology interns were required to submit both an academic and behavioral case study as a part of their internship requirements. Completed case studies were turned in to the university supervisor, who removed all identifying information for both the intern and the case-study student. Then a copy of the completed case study was submitted to the research investigator, who rated the case study utilizing the problem-solving case-study rubric (Appendix A) along with at least two other raters. Scores for each of the subsections and an overall rating were obtained from each rater for each case study. These scores were then used for data analysis to determine individual student outcomes for each case.

In addition to the internship requirement submission of both an academic and behavioral case study, interns were asked to obtain information on a student going through the district IAT process, which was not an internship requirement. At random, the interns selected a student from the IAT process and submitted the following data: reason for referral, intervention data, progress monitoring data, and outcomes, if any. This information was analyzed holistically based on the information that was provided, as student outcome is measured differently according to district procedures. This data was then compared with the academic and behavioral case-student data to determine whether there was a difference in student outcome based on how the student was evaluated.

CHAPTER III

RESULTS

Eleven behavioral case studies and 12 academic case studies were included in this project. Intervention outcomes for the academic case studies were judged as either effective or not effective based on effect sizes and goal attainment scales. Intervention outcomes for the behavior case studies were judged as either effective or not effective based on effect sizes, percent of non-overlapping data points, and goal attainment scales. Effect sizes were rated effective with a score of 0.5 or greater (Cohen, 1998). Another measure of effect size is the percent of non-overlapping data points, which was judged effective with a score of 70% or greater (Scruggs & Mastropieri, 1998). Goal attainment scale scores were judged effective with a positive score of 1 or 2. All data were considered for each case to generate an overall rating of effective or not effective. Overall, 20 cases were judged to be effective and 3 were ineffective (2 academic and 1 behavior).

Case-study integrity was judged to be met or not met according to the case study-rubric requirements for each section of the rubric. If the section was scored as Competent or higher a rating of high integrity was assigned. If the score fell in the threshold development or needs development category a rating

of low integrity was assigned. Overall, sections were completed with integrity in 17 out of 23 case studies when evaluating the overall outcome ratings (10 academic and 7 behavior). When evaluating the integrity of each individual section, high integrity was assigned to 11 out of 23 cases for Section 1, 19 out of 23 cases for Section 2, 16 out of 23 cases for Section 3, and 22 out of 23 cases for Sections 4 and 5.

Four categories were created using a case study integrity rating X outcome effectiveness matrix (Figure 1). The categories were (1) high integrity and effective intervention, (2) high integrity and ineffective intervention, (3) low integrity and effective intervention, or (4) low integrity and ineffective intervention.

It was hypothesized that case studies that were conducted with integrity were more likely to result in effective intervention outcomes. Conversely, case studies that were not conducted with integrity were believed to be more likely to result in ineffective intervention outcomes. Thus, both categories 1 and 4 support the hypothesis. The two categories that represent an inaccurate hypothesis were 2 and 3. A series of binomial tests was conducted with a test proportion level at 0.50 to determine the extent of the accuracy of the hypotheses for each of the five sections of the case-study rubric. Results were deemed significant at the two-tailed level $p \leq .025$.

All cases were combined (both academic and behavioral) for the first series of binomial tests. The observed proportion of the accurate hypothesis category did not differ significantly from the hypothesized value for Sections 1 and 5. In Section 2, the observed proportion of .87 was significantly different from

the hypothesized value of .50, two-tailed $p < .000$. In both Sections 3 and 4, the observed proportions of .78 were significantly different from the hypothesized value of .50, two-tailed $p < .011$.

For the 12 academic case studies, Section 1 (6), Section 2 (11), Section 3 (10), Section 4 (9), and Section 5 (6) supported the hypotheses. For the 11 behavioral case studies, Section 1 (5), Section 2 (9), Section 3 (8), Section 4 (9), and Section 5 (9) supported the hypotheses.

Binomial tests were conducted for the academic case studies and for the behavioral case studies. The hypothesized value of .50 was significantly different than the observed values for the academic case studies in Sections 2 ($p = .006$) and approached significance in Section 3 ($p = .039$). Although no significant differences were found for any sections of the behavioral case studies, it was noted that in Sections 2, 4, and 5, nine out of the 11 case studies supported the hypotheses, and the outcomes approached significance with $p = .065$.

A holistic examination of the results of student outcomes when assessed through a school-wide Intervention Assistance Team (IAT) process indicated that students demonstrated progress toward stated goals through intensive intervention services. Students evaluated (N=5) demonstrated a positive response to implemented interventions. However, these interventions were deemed effective only after a long duration of implementation. The duration of intervention implementation ranged from four months to an entire school year, approximately 10 months. Two of the five students had received intervention services the previous year as well.

Observable and measurable data were inconsistent across students monitored through the IAT process. This is a result of each individual district implementing a process developed and designed to meet the structure of the district. Therefore, accurate data to collect ES and GAS were unobtainable to compare with the 23 case studies evaluated with the problem-solving rubric.

CHAPTER IV

DISCUSSION

Overall, when combining both the academic and behavioral case studies, significant results were found in Sections 2 (Problem Identification and Analysis), Section 3 (Hypothesis Testing) and Section 4 (Intervention Implementation). Sections 2, 3 and 4 are the core sections to the problem solving-rubric as outlined in Appendix A. Section 2 focuses on the proper identification of the problem while defining the problem in observable and measurable terms. Section 3, hypothesis testing, is where prediction statements are created to further define the problem in regards to context, frequency, and desired replacement behaviors. The hypothesis statement is written in a format where it can be supported or refuted. Hypotheses that were supported during the hypothesis-testing section are then linked with the intervention design, development, and implementation (Section 4). It is expected that when these core sections are followed with integrity that positive student outcomes will result, as confirmed during this study.

Although the gathering of local norms and evaluating the results of the intervention are important aspects of a problem-solving model, the current study found that neither Sections 1 nor 5 had a significant impact on student outcomes

based on the integrity or effectiveness of the intervention. Since Section 1 relates to the development of local norms, the implication is that it is possible to conduct a Tier III case study that results in positive student outcomes without the benefit of the information from the first two Tiers in the RTI process. However, the value of Section 1 may be more relevant to early identification of students who are at-risk for failure and should not be discounted as a systematic procedure that is beneficial to all students. The focus of Section 5 is to evaluate the results from the case study, so it is logical that although this procedure may not have an impact on the results of the case study, it is necessary in order to determine whether or not the problem-solving process was effective. The lack of significance for Sections 1 and 5 do not negate the value of the rubric. Instead, it tends to highlight the importance of the three middle sections of problem identification and analysis, hypothesis testing, and intervention implementation.

Investigating the academic and behavior case studies independently did not yield a level of significance in terms of student outcomes when the cases were combined, except for Section 2 of the academic case studies. It is assumed that a level of significance was not reached when evaluating the cases separately was due to the low number of cases assessed: academic ($N=12$), behavior ($N=11$). When running a binomial test, it is recommended to have a minimum number of 25 cases to produce results that will yield more accurate levels of significance.

It was not possible to compare the results of case studies following the rubric with cases using the traditional district intervention model. Only five cases

were submitted to the research investigator to compare with the 23 cases submitted that were evaluated with the problem-solving rubric. Each of the five cases submitted were from districts that implemented different practices for evaluating children involved in intervention implementation. Although the five cases submitted yielded positive student outcomes, this was only true after 4-10 months of intensive intervention implementation. Typically, when utilizing a problem-solving rubric, the process lasts 1-3 months. In addition, the fact that each case was conducted through a different process substantiated the problem that exists when there is no set standard or guide for problem solving. It is virtually impossible to determine whether the positive outcomes were due to the efforts of the problem-solving team or due to something else.

Limitations and Recommendations for Future Research

A limitation to the current study relates to the number of cases collected for data analysis. It is recommended when running a nonparametric binomial test to have a sample size of 25 or greater. Due to the low number of cases, significant results were not easily obtained when the academic and behavior cases were evaluated independently: Combined (N=23), Academic (N=12), and Behavior (N=11)

A second limitation to this study relates to the effect size that was calculated for each of the 23 cases evaluated with the problem-solving rubric. School psychology interns that submitted the 23 cases were trained to utilize the d-index when calculating the effect size of the intervention. However, since

the training of these interns, it has been discovered that the utilization of the g-index is more applicable to case studies and this particular study. The two indices produce different formula for when the criteria for small, moderate, and large effect sizes differ. Therefore, it is recommended that a g-index be utilized in the future when calculating effect size of the intervention of each individual case.

Overall, more research is needed to further investigate student outcomes through the use of a structured problem-solving rubric. For example, a larger sample of cases investigating both academic and behavior concerns may produce stronger conclusions. To gain additional information regarding students evaluated through district intervention procedures as compared to students evaluated with the problem-solving rubric, it is recommended that the psychologist collecting district data also be trained in the evaluation and implementation of the problem-solving rubric, so that the psychologist can accurately obtain, monitor, and report measurable data to use as a comparison with cases evaluated with the problem solving rubric. It would also be helpful to investigate the duration, intensity, and research-basis of the interventions implemented for both district procedures and cases evaluated with the problem-solving rubric, as duration of intervention and level of involvement are important contributing factors to the decision-making process.

APPENDICES

APPENDIX A

Case Study Evaluation Rubric

Section 1.0 Local Norms: Local norms and outcome goals were established for class.

	Outstanding	Competent	Needs Development
1.1	<input type="checkbox"/> Teacher consultation provided both classwide behavioral and/or academic goals and a target date to accomplish the classwide goals	<input type="checkbox"/> Teacher consultation provided only classwide behavioral and/or academic goals or a target date to accomplish the classwide goals	<input type="checkbox"/> Teacher consultation did not provide classwide behavioral and/or academic goals and a target date to accomplish the classwide goals
1.2	<input type="checkbox"/> The class goal statement(s) was written in observable, measurable terms, and was based on the all of the following: <input type="checkbox"/> Review of curriculum for academic goals, AND <input type="checkbox"/> Task analysis for academic and/or behavioral target goals, AND <input type="checkbox"/> Description of class-wide instructional methods to address the academic and/or behavioral target goals	<input type="checkbox"/> The class goal statement(s) was written in observable, measurable terms	<input type="checkbox"/> The class goal statement(s) was NOT written in observable, measurable terms
1.3	<input type="checkbox"/> Local norms were established through direct observation, criteria-based instrument(s), or curriculum-based measurement (Classes that do not have established local norms will need to have at least 3 administrations of each measure conducted over a several week period to determine average rate of change per week or stability for class.)	<input type="checkbox"/> Local norms were established through direct observation, criteria-based instrument(s), or curriculum-based measurement	<input type="checkbox"/> Local norms and/or goals were underdeveloped
1.4		<input type="checkbox"/> Technology was used in the gathering and synthesis of data	<input type="checkbox"/> Technology was not used in the gathering and synthesis of data

Rating for 1.0				
<input type="checkbox"/> <u>Outstanding:</u> All components in the Competent and Outstanding categories are checked	<input type="checkbox"/> <u>Substantially Developed:</u> All components in the Competent category plus some components in the Outstanding category are checked	<input type="checkbox"/> <u>Competent:</u> All components in the competent category are checked	<input type="checkbox"/> <u>Threshold Development:</u> Some components in the competent category are checked	<input type="checkbox"/> <u>Needs Development:</u> Only components in the Needs Development category are checked

Section 2. Problem Identification & Analysis: The at-risk student and academic/behavioral concern(s) are identified and clarified.

	Outstanding	Competent	Needs Development
2.1		<input type="checkbox"/> One at-risk student is identified	<input type="checkbox"/> One at-risk student was not clearly identified
2.2		<input type="checkbox"/> The at-risk student's academic and/or behavioral concern(s) is identified and operationally defined using class goals and local norms	<input type="checkbox"/> The at-risk student's academic and/or behavioral concern(s) is identified but NOT operationally defined using class goals and local norms
2.3		<input type="checkbox"/> The problem was identified and defined collaboratively	<input type="checkbox"/> The problem was NOT identified and defined collaboratively
2.4		<input type="checkbox"/> A baseline for the at-risk student is established for the concern(s)	<input type="checkbox"/> A baseline for the at-risk student is NOT established or is inappropriate
2.5	<input type="checkbox"/> Skill analysis was conducted and included <u>all of the following:</u> <ul style="list-style-type: none"> <input type="checkbox"/> Error analysis, <input type="checkbox"/> Direct observation of skill, <input type="checkbox"/> Criteria-based assessment, OR curriculum-based assessment 	<input type="checkbox"/> Skill analysis was conducted and included <u>one or more</u> of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Error analysis, <input type="checkbox"/> Direct observation of skill, <input type="checkbox"/> Criteria-based assessment, OR curriculum-based assessment 	<input type="checkbox"/> No skill analysis was conducted, or analysis was inappropriate for the identified concern(s)
2.6	<input type="checkbox"/> Performance analysis was conducted and included <u>all of the following:</u> <ul style="list-style-type: none"> <input type="checkbox"/> Record review for historical documentation of pertinent information, <input type="checkbox"/> Student interview, <input type="checkbox"/> Ecological or situational analysis of concern (e.g., routines, expectation-skill match, relationships, classroom environment, adult/teacher support, cultural issues) <input type="checkbox"/> Direct observation (e.g., on-task) 	<input type="checkbox"/> Performance analysis was conducted and included <u>one or more</u> of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Record review for historical documentation of pertinent information, <input type="checkbox"/> Student interview, <input type="checkbox"/> Ecological or situational analysis of concern (e.g., routines, expectation-skill match, relationships, classroom environment, adult/teacher support, cultural issues) <input type="checkbox"/> Direct observation (e.g., on-task) 	<input type="checkbox"/> No performance analysis was conducted, or analysis was inappropriate for the identified concern(s)

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	<input type="checkbox"/> Parent interview	<input type="checkbox"/> Parent interview	
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Rating for 2.0				
<input type="checkbox"/> <u>Outstanding:</u> All components in the Competent and Outstanding categories are checked	<input type="checkbox"/> <u>Substantially Developed:</u> All components in the Competent category plus some components in the Outstanding category are checked	<input type="checkbox"/> <u>Competent:</u> All components in the competent category are checked	<input type="checkbox"/> <u>Threshold Development:</u> Some components in the competent category are checked	<input type="checkbox"/> <u>Needs Development:</u> Only components in the Needs Development category are checked

Section 3.0 **Hypothesis Testing:** Hypotheses were developed and tested

	Outstanding	Competent	Needs Development
3.1		<input type="checkbox"/> Hypotheses were generated through collaboration with teacher and/or parent	<input type="checkbox"/> Hypotheses were generated without collaboration with teacher and/or parent
3.2	<input type="checkbox"/> Multiple hypotheses were developed to identify the cause or source of each problem	<input type="checkbox"/> A hypothesis was developed to identify the cause or source of each problem	<input type="checkbox"/> No hypotheses were developed
3.3	<input type="checkbox"/> Each of the multiple hypotheses was tested to confirm the cause or source of the problem using one or more of the following methods: <input type="checkbox"/> Direct observation, <input type="checkbox"/> Analogue assessment, <input type="checkbox"/> Functional assessment, <input type="checkbox"/> Self-monitoring assessment, <input type="checkbox"/> Other	<input type="checkbox"/> One hypothesis was tested to confirm the cause or source of the problem using one or more of the following methods: <input type="checkbox"/> Direct observation, <input type="checkbox"/> Analogue assessment, <input type="checkbox"/> Functional assessment, <input type="checkbox"/> Self-monitoring assessment, <input type="checkbox"/> Other	<input type="checkbox"/> Hypothesis testing did not occur
3.4		<input type="checkbox"/> The hypothesis reflected awareness of individual differences (e.g., biological, social, linguistic, cultural)	<input type="checkbox"/> The hypothesis did NOT reflect awareness of individual differences (e.g., biological, social, linguistic, cultural)
3.5		<input type="checkbox"/> Hypothesis testing linked the academic and/or behavioral problem(s) with the intervention	<input type="checkbox"/> Hypothesis testing did NOT link the academic and/or behavioral problem(s) with the intervention

Rating for 3.0

<input type="checkbox"/> <u>Outstanding:</u> All components in the Competent and Outstanding categories are checked	<input type="checkbox"/> <u>Substantially Developed:</u> All components in the Competent category plus some components in the Outstanding category are checked	<input type="checkbox"/> <u>Competent:</u> All components in the competent category are checked	<input type="checkbox"/> <u>Threshold Development:</u> Some components in the competent category are checked	<input type="checkbox"/> <u>Needs Development:</u> Only components in the Needs Development category are checked
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Section 4. Intervention: Intervention was implemented and monitored

	Outstanding	Competent	Needs Development
4.1		<input type="checkbox"/> Goal statement(s) was written in observable, measurable terms	<input type="checkbox"/> Goal statement was NOT written in observable, measurable terms
4.2		<input type="checkbox"/> Goal statement(s) emerged from the problem analyses and hypothesis testing	<input type="checkbox"/> Goal statement(s) did NOT emerge from the problem analyses and hypothesis testing
4.3		<input type="checkbox"/> Intervention(s) was developed collaboratively	<input type="checkbox"/> Intervention(s) was NOT developed collaboratively
4.4		<input type="checkbox"/> Intervention(s) logically linked to the referral question	<input type="checkbox"/> Intervention was NOT linked to referral question
4.5		<input type="checkbox"/> Intervention(s) logically linked to the hypothesis	<input type="checkbox"/> Intervention(s) did NOT logically link to the hypothesis
4.6		<input type="checkbox"/> Intervention(s) logically linked to the goal statement	<input type="checkbox"/> Intervention(s) did NOT logically link to the goal statement
4.7	<input type="checkbox"/> Logistics of setting, time, resources and personnel required for intervention and data gathering were defined and implemented	<input type="checkbox"/> Intervention(s) was described including procedures for one or more of the following: <input type="checkbox"/> Promoting new or replacement behaviors/skills <input type="checkbox"/> Increasing existing behaviors/skills <input type="checkbox"/> Reducing interfering problem behaviors <input type="checkbox"/> Facilitating generalization	<input type="checkbox"/> Intervention(s) was NOT described in enough detail to ensure appropriate implementation
4.8	<input type="checkbox"/> Support was provided to justify the use of the intervention as evidence-based practice (e.g., research literature, functional analysis)	<input type="checkbox"/> Intervention(s) was implemented	<input type="checkbox"/> Intervention(s) was limited to determination of eligibility for special education services or referral for services external to the school and/or the home

4.9	<input type="checkbox"/> Acceptability of intervention by teacher, parent and child was verified	<input type="checkbox"/> Intervention reflected sensitivity to individual differences, resources, classroom practices, and other system issues	<input type="checkbox"/> Intervention did NOT reflect sensitivity to individual differences, resources, classroom practices, and other system issues
4.10	<input type="checkbox"/> Treatment/intervention integrity was monitored to assure appropriate implementation	<input type="checkbox"/> Intervention(s) was monitored	<input type="checkbox"/> Intervention(s) was NOT monitored

Rating for 4.0				
<input type="checkbox"/> <u>Outstanding:</u> All components in the Competent and Outstanding categories are checked	<input type="checkbox"/> <u>Substantially Developed:</u> All components in the Competent category plus some components in the Outstanding category are checked	<input type="checkbox"/> <u>Competent:</u> All components in the competent category are checked	<input type="checkbox"/> <u>Threshold Development:</u> Some components in the competent category are checked	<input type="checkbox"/> <u>Needs Development:</u> Only components in the Needs Development category are checked

Section 5.0 **Evaluation and Recommendations:** Data were gathered and documented to demonstrate efficacy of intervention.

	Outstanding	Competent	Needs Development
5.1	<input type="checkbox"/> Goal attainment was plotted at the end point and compared to baseline	<input type="checkbox"/> Progress monitoring data were plotted on a graph or chart	<input type="checkbox"/> Progress monitoring data were NOT plotted on a graph or chart
5.2	<input type="checkbox"/> Goal attainment was plotted at the end point and compared to the desired goal	<input type="checkbox"/> Data were provided as evidence of measurable, positive impact toward stated goal	<input type="checkbox"/> Data were NOT provided to document student progress
5.3		<input type="checkbox"/> Single-case design was specified (e.g., changing criterion, withdrawal, multiple baseline, alternating treatments) to prove efficacy of intervention	<input type="checkbox"/> Single-case design was not specified (e.g., changing criterion, withdrawal, multiple baseline, alternating treatments) to prove efficacy of intervention
5.4		<input type="checkbox"/> Current technologies were used to present data	<input type="checkbox"/> Current technologies were not used to present data
5.5	<input type="checkbox"/> Data were obtained through <u>multiple methods</u> and were presented in support of student's progress from two or more of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Direct observation <input type="checkbox"/> Rating scale <input type="checkbox"/> Peer comparison <input type="checkbox"/> Self-monitoring <input type="checkbox"/> CBM <input type="checkbox"/> Other 	<input type="checkbox"/> Evidence in support of student's progress from <u>one</u> of the following: <ul style="list-style-type: none"> <input type="checkbox"/> Direct observation <input type="checkbox"/> Rating scale <input type="checkbox"/> Peer comparison <input type="checkbox"/> Self-monitoring <input type="checkbox"/> CBM <input type="checkbox"/> Other 	<input type="checkbox"/> No evidence was provided in support of student's progress
5.6	<input type="checkbox"/> Intervention quality and integrity were monitored with a formal measure	<input type="checkbox"/> Intervention quality and integrity were monitored but the formal measure was not clearly specified	<input type="checkbox"/> Intervention quality and integrity were not monitored
5.7	<input type="checkbox"/> Effectiveness of intervention was examined collaboratively	<input type="checkbox"/> Effectiveness of intervention was examined, but evidence of collaboration in the examination was not included	<input type="checkbox"/> Effectiveness of intervention was not examined
5.8	<input type="checkbox"/> Intervention limitations and	<input type="checkbox"/> Intervention limitations or	<input type="checkbox"/> Intervention

	side effects were described	side effects were described	limitations and side effects were not described
5.9	<input type="checkbox"/> Strategies for follow-up were developed collaboratively	<input type="checkbox"/> Suggestions for follow-up were provided	<input type="checkbox"/> Suggestions for follow-up were NOT provided
5.10	<input type="checkbox"/> Goal Attainment Follow-up Guide was developed prior to initiation of intervention. <input type="checkbox"/> Level of goal attainment was determined <input type="checkbox"/> Changes in intervention and/or follow-up recommendations were made, as indicated by Follow-up Guide.	<input type="checkbox"/> Level of goal attainment was determined <input type="checkbox"/> Changes in intervention and/or follow-up recommendations were made.	<input type="checkbox"/> Level of goal attainment was not determined.
5.11	<input type="checkbox"/> Effect size was calculated and demonstrated a positive, measurable outcome.	<input type="checkbox"/> Effect size was calculated.	<input type="checkbox"/> Effect size was not calculated.
5.12	<input type="checkbox"/> Percent of Non-overlapping data points was calculated and demonstrated a positive, measurable outcome.	<input type="checkbox"/> Percent of Non-overlapping data points was calculated	<input type="checkbox"/> Percent of Non-overlapping data points was not calculated

Rating for 5.0				
<input type="checkbox"/> <u>Outstanding:</u> All components in the Competent and Outstanding categories are checked	<input type="checkbox"/> <u>Substantially Developed:</u> All components in the Competent category plus some components in the Outstanding category are checked	<input type="checkbox"/> <u>Competent:</u> All components in the competent category are checked	<input type="checkbox"/> <u>Threshold Development:</u> Some components in the competent category are checked	<input type="checkbox"/> <u>Needs Development:</u> Only components in the Needs Development category are checked

Overall Rating for Case Study (A rating of Competent or higher is required to pass)				
<input type="checkbox"/> <u>Outstanding:</u> Case study is rated Outstanding in all five Sections	<input type="checkbox"/> <u>Substantially Developed:</u> Case study is rated Competent or higher for all Sections and Substantially Developed or higher in one or more sections	<input type="checkbox"/> <u>Competent:</u> All five Sections of the Case Study are rated competent	<input type="checkbox"/> <u>Threshold Development:</u> Some but not all Sections are rated Competent	<input type="checkbox"/> <u>Needs Development:</u> Sections are only rated Needs Development

Case study submitted by: _____ Date: _____

Case study reviewed by: _____ Date: _____

APPENDIX B

Informed consent to Participate as a Research Subject

Informed Consent to Participate as a Research Subject

Project Title: Improving Student Outcomes through RTI: The Value of Utilizing a Case Study Rubric

Investigators: Daniel Trunk, Julie Rabatsky, and Norine Veeneman

Purpose of Research: This research seeks to investigate the relationship between three measures of case study fidelity procedures and student outcomes.

Expected Duration of Study: This study will take place during the 2007-2008 academic school year.

Procedure: During your school psychology internship you will be completing two pupil case studies according to the specifications of a rubric adopted by the National Association of School Psychologists. While completing these assignments, you will be interviewed following the hypothesis testing section of both the behavioral and academic case studies. Interviews will be tape recorded and last approximately 20 minutes. Prior to the implementation of each intervention, your treatment fidelity measure will be photo copied to allow researchers to observe treatment fidelity throughout each case study. Further, you will be observed implementing the intervention for a percentage of the intervention sessions. You will turn in your completed case studies at the end of the 2007-2008 school year and your case studies will be reviewed by the research team and student outcome data will be analyzed.

Alternative Procedures: There are no alternative procedures for this research study.

Anticipated Risks and / or Discomfort: There are no anticipated risks or discomforts as a result of this study. The study involves observing and collecting data from case studies that are mandatory for completion of graduation with the Ed.S. Degree from the University of Dayton.

Benefits to the Participant: There are no anticipated benefits to the participants of this study.

Confidentiality: Participation in this study will be kept confidential. No further consent is needed from the parent(s) of the students which the case studies are being conducted as informed consent must be obtained from the student's parent(s) prior to the beginning of each case study. Outcome data from the interventions will be reviewed at the conclusion of the case study upon submission to the internship advisors. Field observation notes will be kept confidential and anonymous. Data will be stored in a locked file cabinet in the Counselor Education office in Chaminade Hall at the University of Dayton. Data will be destroyed three years following the completion of data analysis.

Contact Person for Questions or Problems: If you have a question during the research period, please contact Sawyer Hunley, Chaminade Hall Room 301, 937-229-3624. Questions about the rights of the participant should be addressed to Jon Nieberding., Chair of the Committee for the Protection of Human Subjects, Kettering Labs Room 542, +0104, 937-229-4053.

Consent to Participate: I understand that participation in this study is voluntary. I understand that I have the right to discontinue your participation in this study at any time. The investigators above have answered all questions regarding the research project, my participation, and issues of confidentiality. I have received a copy of this consent form and I voluntarily will sign.

Signature of Participant

Date

Signature of Investigator

Date

APPENDIX C

Informed Parental Consent (Case Study Evaluation)

(Insert Date)

Dear Mr. and Mrs. (Insert Name):

Please accept this request for permission for your son/daughter, (Insert Name), to participate in one of my University of Dayton internship assignments. I am employed by the (Insert School District) School District as an intern school psychologist, and am in my final year of training to earn a license as a school psychologist from the Ohio Department of Education. I work under the supervision of (Insert Supervisor), a (Insert School District) licensed school psychologist, as well as the supervision of Dr. James Evans, a faculty member in the School Psychology Program at the University of Dayton. One of my required internship assignments is to conduct an academic case study. (Student's) teacher, (Insert Teacher Name), has expressed her wish for help in improving (Insert Concern). The study involves gathering some information about (Student) by interviewing (Student) and his teacher, by observing (Student) in class, and by asking him to demonstrate his skills to me during some exercises I will administer to him. This information will be used to design some different ways to teach (Student) in order to improve his or her skills. The effectiveness of the methods will be monitored and changed as needed to make them better. You will receive progress reports, and a final report after the teaching methods have been used.

Please feel free to ask questions of any of the following people at any time.

(Field Supervisor): (Phone Number) or (E-mail Address)

(Field Supervisor): (Phone Number) or (E-mail Address)

Dr. James Evans: (937) 212-8554 or James.Evans@notes.udayton.edu

Sincerely,

(Intern School Psychologist)

Please sign one copy of this letter below to indicate whether you grant or refuse permission, and return it to me at the above address. Keep the other copy for your records.

Signature to Grant Permission

Signature to Refuse Permission

Date

APPENDIX D

Informed Parental Consent (Intervention Evaluation-version 1)

(Insert Date)

[Insert Name and Address of Parent(s)]

Dear Mr. and Mrs. (Insert Parent Name):

Please accept this request for the release of intervention data gathered by the Intervention Assistance Team (IAT) at _____ School in its efforts to help your daughter/son, _____, who was referred for assistance with _____. I make this request because I am a member of the IAT and am also an intern school psychologist, completing my graduate training through the University of Dayton. I work under the supervision of the school psychologist at _____ School, as well as the supervision of a faculty member in the School Psychology Program at the University of Dayton.

A colleague of mine at the University of Dayton, Julie Rabatsky is gathering data for her thesis that involves an analysis of the data collected from interventions conducted through the IAT with a child such as your daughter/son. No information that identifies _____ will be included in the data released; all that will be released will be the intervention steps used and the results of those steps.

Please feel free to ask questions of any of the following people at any time.

Julie Rabatsky: (440) 376-6718 or julr16@sbcglobal.net

Dr. James Evans: (937) 212-8554 or James.Evans@notes.udayton.edu

Sincerely,

(Insert Name of Intern School Psychologist)

Intern School Psychologist

(Insert Phone Number)

(Insert Mailing Address)

Please sign below one copy of this letter to indicate whether you grant or refuse permission, and return it to me at the above address. Keep the other copy for your records.

Signature to Grant Permission

Signature to Refuse Permission

Date

APPENDIX E

Informed Parental Consent (Intervention Evaluation-version 2)

(Insert Date)

[Insert Name and Address of Parent(s)]

Dear Mr. and Mrs. (Insert Parent Name):

Please accept this request for the release of intervention data gathered by the Intervention Assistance Team (IAT) at _____ School in its efforts to help your daughter/son, _____, who was referred for assistance with _____.

An intern school psychologist of the University of Dayton is serving in insert district and is a member of the IAT. The intern works under the supervision of the school psychologist at _____ School, as well as the supervision of a faculty member in the School Psychology Program at the University of Dayton.

I make this request because I am gathering data for my thesis that involves an analysis of the data collected from interventions conducted through the IAT with a child such as your daughter/son. No information that identifies _____ will be included in the data released; all that will be released will be the intervention steps used and the results of those steps.

Please feel free to ask questions of any of the following people at any time.

Julie Rabatsky: (440) 376-6718 or julr16@sbcglobal.net

Dr. James Evans: (937) 212-8554 or James.Evans@notes.udayton.edu

Sincerely,

Julie Rabatsky
School Psychology Graduate Student
University of Dayton
(440) 376.6718

Please sign below one copy of this letter to indicate whether you grant or refuse permission, and return it to me at the above address. Keep the other copy for your records.

Signature to Grant Permission Signature to Refuse Permission Date

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