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Check and Connect with Secondary Students

Georgia College & State University

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Abstract

Marks (2000) reported engagement in the classroom leads to achievement and contributes to students' social and cognitive development. There have been several studies on the Check and Connect (CNC) intervention, however there is little research on its effectiveness on high school students who lack engagement and display disruptive behaviors. In this study, a multiple-baseline across participants design was used to determine the effects of a CNC intervention on student disruptive behaviors among students with and without disabilities in the 9th grade of high school. Three high school students age 13-16 with persistent disruptive behaviors participated in this study. Data on the effect of the CNC intervention were collected, interpreted, and graphed. The behavior of the participants was measured through the use of a behavior report card. As a result of the CNC intervention, all participants decreased in the number of inappropriate and disruptive behaviors once the intervention was implemented therefore it was determined that there was a functional relation between the intervention and the decrease in inappropriate in behaviors for the participants.

Keywords: student engagement, check and connect, check in check out, behavior, dropout rate

Check and Connect: The effect on 9th grade students

Student Engagement

According to research from the U.S. Department of Education (2012), Georgia had a 67% overall graduation rate for the 2010-11 school year, the third-worst in the country, above only New Mexico and Nevada. Connell and Klem (2004) state that by high school as many as 40% to 60% of students become chronically disengaged from school (urban, suburban, and rural) and that is not counting those who already dropped out. Marks (2000) reported engagement in the classroom leads to achievement and contributes to students' social and cognitive development. Students who are engaged with school are more likely to learn, to find the experience rewarding, to graduate, and to pursue higher education. Despite its importance, research studies over the past two decades have documented low levels of student engagement in U.S. schools. Newmann (1992) stated that the most obviously disengaged students disrupt classes, skip classes, or fail to complete assignments. However, more typically, disengaged students behave well in school. They attend class and complete the work, but with little indication of excitement, commitment, or pride in mastery of the curriculum (Newmann, 1992). Therefore, it is imperative to improve student engagement in order to improve student behavior and overall graduation rates.

Multiple definitions have been given for student engagement. Marks (2000) define student engagement as a psychological process, specifically the attention, interest, investment, and effort students expend in the work of learning. Newmann (1992) defined student engagement in academic work as the student's psychological investment in an effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote. In an older article, student engagement was defined as having both a behavioral component, termed participation, and an emotional component, termed identification (Finn,

1989). No matter which definition of engagement is used, they all focus on student behaviors and how the behaviors affect retention in school.

Once a student becomes disengaged with school, dropping out is an option that some students consider. According to the Georgia Department of Education (2012), of the students classified as seniors 30.3% did not graduate. This means either they dropped out or did not meet graduation requirements within one academic year because of lack of credits. Henry, Knight, and Thornberry (2010) theorize that dropping out of school is only the end of the more general process of school disengagement, a process that typically begins earlier in the educational career. In terms of prevention, measuring early school disengagement may be more beneficial than assessing dropout rates alone.

In order to keep students engaged and in school there are many different interventions that have been used. Examples of student engagement activities and interventions include social skills groups, mentoring, academic support, girl leadership groups, ongoing support from school counselor, newcomer clubs, and extracurricular activities just to name a few (McCurdy, Kunsch, & Reibstein, 2007). Powell (1997) researched the effects of peer tutoring and mentoring on a group of disadvantaged secondary students and found that peer tutoring and mentoring had a positive effect on academic achievement as evidenced by improvements in test scores, grade point averages (GPAs), and course pass rates. Thus, when trying to help some students who are having difficulty with school engagement; peer tutoring and mentoring could be one solution.

Another intervention that might be helpful for addressing students who are struggling with engagement is the Check and Connect (CNC) intervention. CNC is an intervention that is data driven and grounded in research on resiliency and home-school collaboration (Christenson, Pohl, & Stout, 2012). This intervention focuses on the monitoring of students' daily behavior and

students receive immediate feedback and encouragement from mentors implementing the intervention. In order to determine if a student would benefit from the CNC intervention, there are student referral criteria. Student referral criteria include alterable warning signs of school disengagement, primarily excessive absences, in the context of academic performance, and emotional or behavioral problems (Christenson, et al., 2012). If a student is determined to have these alterable factors which demonstrate disengagement he/she may benefit from the CNC program which entails the following steps:

1. Identify students at risk of disengagement or dropout
2. Select or hire mentors
3. Organize existing resources for intervention
4. Get to know students, teachers, and parents
5. Use “check” procedures and the monitoring form
6. Implement “connect” interventions
7. Strengthen the family-school relationship
8. Monitor the person-environment fit
9. Provide mentor support and supervision
10. Evaluate program implementation

When successfully implemented, CNC is said to improve overall student achievement (“Check & Connect,” 2013).

Alvarez, Anderson, and Ketchmark (2010) outlined the implementation of CNC. They first determined in order for an effective CNC program, it must contain four components: (a) a mentor who will remind students of the importance of education, (b) thorough systematic monitoring (the “check” component), (c) timely and individualized intervention (the “connect”

component), and (d) involving parents with the daily behavior and goals of students and have them active within the intervention at home. Students are identified then recommended by the CNC and agreed on by the school. Once a student is identified as appropriate for CNC, a person is assigned to assess the student's progress in school; assess the student's level of engagement; and based off the information provided, create a plan to strengthen school engagement, and then communicate with teachers, parents, and others about the student's progress. Response to Intervention (RTI), interventions are used with struggling students and range in intensity and frequency according to the student's needs and response to those interventions. RTI can be summarized as how schools identify students at risk for poor learning outcomes, then monitor student progress to provide evidence-based interventions and adjust the intensity and nature of those interventions depending on student responsiveness, and identify those students with learning disabilities or other disabilities based how they react to the interventions (NCRTI, 2010).

Todd, Campbell, Meyer, and Homer (2008) state that behavior support in schools is increasingly viewed as a three-tier prevention effort in which *universal* interventions are used for primary prevention, *targeted* interventions are used for secondary prevention, and *intensive* interventions are used for tertiary prevention. They believe that a growing body of research has demonstrated the effectiveness of targeted interventions for decreasing the frequency of problem behaviors. They examined if there is a functional relation between the implementation of the CNC and a reduction in problem behaviors. Their results indicate that implementation of CNC with four elementary school-age boys was functionally related to a reduction in problem behavior. Clinical and conceptual implications of these results, methodological limitations, and

future research directions were reviewed and included. They build on the importance and reasons why the CNC intervention is successful and helps decrease dropout rates as well as other things.

What Works clearinghouse (WWC; 2010), a proven reliable source to state if an intervention is effective and report the benefits and successes of an intervention, stated that the CNC was designed to promote students' engagement with school and learning. Students may be referred to the program if they exhibit emotional, academic, or behavioral warning signs. CNC is implemented by a mentor, who is a combination of a mentor for the student, an advocate, and a service coordinator. The mentor's primary goal is to keep education a first priority for disengaged students and their teachers and family. Student levels of engagement (such as attendance, grades, and suspensions) are "checked" regularly and used to guide the mentors' efforts to continuously increase and help maintain the students' "connection" with school.

Filter et al. (2007) did a study on the check in check out intervention to reduce problem behaviors in schools. Check in check out is very similar to CNC but it usually operates under a school wide positive behavior intervention support program (SWPBIS). The Check in Check out intervention states that it was developed as a secondary-level targeted behavioral intervention in a three-tier preventative model of behavior support and has received empirical support as an effective way to reduce problem behaviors. The purpose of this study was to evaluate, post-implementation, the fidelity of implementation and effectiveness of the check in check out intervention to reduce problem behavior when program training and implementation was managed by typical district personnel. They found that the critical components of the program were implemented with fidelity across three elementary schools with over 300 students and that the program was effective in reducing the number of office discipline referrals for students who entered the program. Further, the program was perceived as being effective and efficient by

district personnel. It is argued by researchers that the check in check out intervention should be considered a viable targeted behavioral intervention with students for whom primary-level preventative measures are insufficient.

Similar to the previous study on check in check out, Bolden, Ennis, and Jolivette (2012) implemented a check in check out intervention for students with intellectual disability in self-contained classrooms discuss the use of check in check out as a secondary tier school wide positive behavioral intervention and support for students with an intellectual disability. The authors comment on the high importance of teaching positive social behaviors and forming reciprocal relationships from an early age. Also addressed are the steps of implementation of the check in check out including checking in to meet privately with a facilitator, receiving verbal feedback regarding the student's goals, and family members reviewing the day's progress. They noted the need for frequent progress monitoring while using a check in check out behavioral intervention at conclusion of research. Results showed that with correct implementation of the intervention, student deficits were able to remain stable overtime. This article was important for research to show how it is important to implement interventions at the first sign of student disengagement even at an early age. Waiting until students reach high school to correct inappropriate behaviors by intensive intervention could lead to even more disengagement if not dropout.

Cheney et al. (2010) reported on the summaries of several studies of targeted Tier 2 interventions like CNC, which have been effective at producing positive social outcomes for students who are at risk of developing emotional or behavioral disabilities. In some Tier 2 interventions, a school-based coach works with teachers and students on a daily basis to set social goals, check students' progress, provide reinforcement when students meet goals, and

communicate students' progress to their parents. Students have a daily progress report card to assess their social behavior and receive feedback and ratings from teachers. Additional supports are available in the form of social-skills instruction and problem-solving instruction when students do not meet daily social expectations. Results from previous studies on tier 2 interventions show that they can reduce problematic student behavior, reduce referral rates to special education, and enhance students' social behavior. The CNC intervention incorporates all of these components previously mentioned that have proven to help student become more successful academically.

Anderson, Christenson, Sinclair, and Lehr (2004) focused on the actual relationships between school officials, teachers, paraprofessionals, and other adults in the school building and their impact on students. This is important to the CNC intervention because of the relationships that are formed and the needs for those relationships when using the CNC intervention. The researchers chose to use 80 elementary and middle school to perform research on the CNC intervention. Students referred to the CNC program in this study were for poor attendance which was considered an early sign of disengagement. The results in this study were derived from the perceptions of individual participants and were qualitative in nature. Participants explained the roles of school officials and others that are carrying out the intervention. They described their roles and duties and what they are to do to ensure the intervention is carried out in order to be successful. This article lacked important information on the importance of building those relationships and how those relationships affect student behavior during an intervention.

Sinclair, Christenson, Lehr, and Anderson (2003) performed similar research previously on CNC where they studied 94 ninth grade students with learning and emotional disabilities. In this study, they used a quasi-experimental design that consisted of students who participated in

the CNC program that were able to notice significant increases in overall school performance and a decrease in number of absences. Student inappropriate behaviors were measured and discussed with teacher and student during check in periods and check out periods of the intervention. By performing this research and presenting the results, they were able to add to the knowledge and understanding of the CNC intervention.

In comparison to Sinclair et al., Hoppe (2004) not only used 9th grade students with the CNC intervention, but Hoppe (2004) incorporated technology for student training and data management. Instead of allowing teachers to implement the program, students followed multimedia programs that explained the CNC program. Once they were trained they followed a program that monitored student behavioral data and provided them with daily behavior input based off of behavioral data. Student inappropriate behaviors did decrease but it was difficult to understand if the decrease in student behaviors was because of the CNC program or because students enjoyed using the multimedia equipment. This is important to research because it focuses on one particular group of students rather than the entire secondary community. By focusing on one particular group it allowed for the researcher to pin point minute details and explain why the intervention was successful and problems that were found.

Sinclair, Christenson, and Thurlow (2005) continued the focusing on one particular group when they performed an experimental research design in which they used CNC to examine the effectiveness of a targeted, long-term intervention to promote school completion and reduce dropout among urban high school students with EBD. Only African American males were used in this study to discuss the effectiveness of the program. Participants included 144 ninth graders, randomly assigned to the control group. While they were part of the control group, they received extensive behavioral training. The majority of youth were followed for 4 years, with a subsample

followed for 5 years. Program outcomes included lower rates of dropout for the control group and mobility, higher rates of persistent attendance and enrollment status in school, and more comprehensive transition plan. This gives insight when focusing on one particular demographic of students rather than the entire student body. Looking at a more diverse student population could affect results of findings.

Discussion

Simply telling or encouraging students to engage themselves in their class work is not enough (Jones, 2008). Given that drop out occurs when students are in high school, there is a need for high school professionals to find an intervention that can increase student engagement and decrease dropout rates among students with disabilities (Sinclair et al., 2005). In order to reduce dropout rate it is important to reach students before they develop the thoughts of dropping out and before they begin to fail in other (e.g., peers, extracurricular activities, etc.) aspects of high school. Although previous researchers have examined the use of CNC with various age groups including elementary school-age students (Alvarez & Anderson-Ketchmark, 2010), middle school age students (Powell, 2007), 9th grade students (Sinclair, Christenson, Lehr, & Anderson, 2003), and high school students (Filter et al., 2007), the research related to the effects on engagement for students in 9th grade or early high school is limited. Therefore, it is important to expand the base of the current literature and determine what effects CNC behavior intervention has on the disruptive behaviors and behaviors that often lead to disengagement for 9th grade students who are considered at-risk. At-risk students are defined as those students who have chronic behavior issues or attendance issues and are on the verge of either being referred to alternative high schools or expulsion. Therefore, the purpose of this study is to answer the following research question: What affect will a CNC behavior intervention have on disruptive

behavior of 9th grade students have chronic behavior problems that are negatively affecting their education and engagement with school?

Method

Setting

The high school in which the research was conducted was in a small suburban town within 25 miles of the state capital. Approximately 1,800 students attended the school during the 2012 school year, with 42.6% male and 53.8 % female students and a student to teacher ratio of 1 to 17. Of those 1,800 students 73% were African American, 23% were Caucasian, and 4% were Asian and Hispanic (Taylor, 2009). The school is one of two high schools in the county and is the city school in which majority of the inner city students attended.

Participants

Originally five different students were given parent consent forms (see Appendix A) in order to participate in the study, only three of these students returned signed forms with permission to participate. Those five students were chosen based off of academic score, overall grades, and/or attendance. The three students who actually participated were between the ages of 13-16. The students selected have documented chronic behavior problems for multiple reasons (e.g., disruptive behavior in class, difficulty following directions, poor attendance, frequent tardiness, etc.). These students did not respond to school wide positive behavior supports (SWPBS) nor have they responded to previous disciplinary actions by school officials. One academic teacher for each student and the assistant principal assisted with carrying out research. Of the participating teachers, all were Highly Qualified which is identified by the state of Georgia in their content area. Each teacher had at least 2 years of teaching experience at the time of the study.

Crew. Crew was a 15 year old African American male in the 9th grade. Crew received special education services under specific learning disability (SLD) eligibility to address deficits in reading and writing. Crew had a psychological report on file and a current IEP at time of the study. Crew was referred to participate in the study by his Biology teacher. Crews Biology teacher reported that Crew was constantly causing classroom disruptions. He frequently talked during instruction with friends and yelled out remarks and answered that did not pertain to Biology. Crew had failing grades in all academic courses. In Biology he had below a 50 and the teacher reported that the only reason his grade was a 48 was because Crew did not turn in any assignments but passed the first test with a 70. Crew was often sent to in school suspension to finish assignments by other teachers because of classroom disruptions.

Dent. Dent was a 15 year old African American male in the 9th grade. Dent was receiving special education services under an SLD eligibility to address deficits in math and reading. Crew had a psychological report on file and a current IEP at time of the study. Dent was referred by his Biology teacher as well. His Biology teacher stated that Dent was a very respectful young man, but he was constantly talking. When redirected he responded positively but his talking often kept him as well as his peers off-task. Dent was failing 3 of 4 academic courses at the time of the study but all teachers reported that they felt he would pass by the end of the semester. In biology Dent had a 66. He did have some missing assignments that he needed to turn in and was staying after school to complete and for tutoring.

Bre. Bre was a 14 year old African American female in the 9th grade. She did not receive special education services at the time of the study, but was identified by administrators as a student with frequent behavior problems and was put on a behavior contract. Bre lived at home with her grandmother and was the only child. Bre was referred to the study by her Biology

teacher because of constant off-task behaviors and constantly being out of her seat. Bre was passing all of her class but had a 70 in Biology. Based on her abilities, Bre could have easily been making a B in the class but because she constantly had to be redirected or sent outside, she missed instruction. Bre was passing math with a B, English literature with an A, and Social Studies with a B.

Teachers. Three classroom biology teachers were selected to collect data for this study. Each teacher agreed to participate by signing teacher agreement form provided by lead researcher (see Appendix B). Ms. Ellis was an 8th year Biology teacher. She had a nursing degree from Clark Atlanta University and Master's in secondary education from Clayton state. She co-taught for the first 6 years of her teaching career and the past 2 as a lead teacher in biology. Dr. Ram was a 16th year Biology and Physical Science teacher. He had his undergraduate degree in Biology from Clemson University and went on to pursue his Master's degree in Secondary Education from the University of Georgia. After teaching for 5 years he went back to the University of Georgia to receive his Doctoral Degree in Educational Leadership. This school year he taught 4 Biology courses and 2 Physical Science classes throughout the day. Ms. Cox was in her 25th year as a Biology teacher. She received her Bachelors' degree in the field of education from Georgia Southwestern University in education. She taught freshman Biology every period throughout the day and multiple inclusion classes with different co teachers.

Lead Mentor. Coach J was the lead mentor during the intervention responsible for completing the daily check in (morning) and check out (end of school day) portion of the intervention. He is a undergrad management graduate of Georgia Southern University and a Masters of Arts in Teaching in Special Education graduate from Georgia College and State

University. He was a 5th year teacher certified in both Math and Science by the state of Georgia and a 2nd year teacher at the school in which research was performed.

Mentor. Mr. Harper was the freshman academy assistant principal. He was in his 2nd year in his position. Mr. Harper served as the backup mentor as well as the independent observer. He served as a mentor for the CNC intervention if the lead mentor was absent or could not meet with students after school. He also visited classes on his hall to view student behavior or to deescalate behavior issues before they resulted in disciplinary referrals. When Mr. Harper found out the intervention was being completed on his hall he often stopped in to check on student behaviors. Because the lead mentor did not miss any days during intervention period for students, Mr. Harper did not participate in the study.

Research Design

A single subject multiple-baseline across students design was used to evaluate the effectiveness of a CNC intervention on the behaviors of 9th grade students who have been identified as having chronic behavior problems that are negatively affecting their education. By using a multiple baseline across students design to demonstrate experimental control, two predictions had to be made prior to initiating research; first, that each target behavior would be functionally independent, so that the dependent measure will remain stable until the intervention is applied; and second that each behavior will be functionally similar and will respond to the same intervention (Tawney & Gast, 1984). If either prediction fails, experimental control is lost or, at least confounded (Tawney & Gast, 1984).

In the current study, first it was important to establish a stable baseline for the first student. The intervention was implemented with 1 student first while continuing baseline data collection with the rest of the students and once the first student was responding to the

intervention, intervention was implemented with the next student if his/her baseline data was stable. If baseline of next student was not stable, they continued until it did become stable then they were able to move into intervention implementation stage. After intervention data were collected for a five days period, they moved into maintenance for 5 days to be observed after removal of intervention.

Independent Variable

The independent variable used for this study was the CNC intervention. According to the Responding to Individual Differences in Education journal (RIDE; 2007), CNC is a targeted intervention that is most effective when used along with a school wide positive behavior support (SWPBS) approach to discipline. To support students at-risk, CNC sets students up for successful opportunities to earn positive reinforcement and involves immediate feedback from teachers. Performance is tracked and graphed to reinforce progress and teach appropriate and propitious behaviors. The 7 steps for the intervention in this study were implemented as outlined by RIDE (2007).

1. Identified students who met the conditions to participate in CNC. Students were identified to participate if they met the following criteria: they engage in problem behavior but not “crisis” behaviors, find adult attention to be an effective form of reinforcement, are responsive to improved structure, and are lacking in organizational skills.
2. Defined student goals and developed daily report cards. Students were observed and scored on the number of occurrences for each behavior displayed.

3. Students were taught the student behaviors that were measured on the daily behavior report card. Explicitly explained all aspects of the CNC program- who and where to check-in and check-out.
4. Started with the first student and continued with one student at a time. Teachers were consistent in using CNC as an instructional tool to teach students appropriate behaviors and not as a punishment technique.
5. Formalized the commitment with a behavior contract that defines expectations for students, the CNC coordinator (designated school person if available), and parents/guardian. Encouraged home support and collaboration through parent-teacher communication.
6. Summarized weekly data for each student to monitor progress on meeting daily percentage points. Used data to determine if a student should be continued, modified, or faded from the program. Looked at the data for signs of a decrease in points and considered how fast and how far the student was ready to fade off of CNC.
7. Faded student from CNC as at the end of the experimental period. Maintain the use of the behavior report card as a self-monitoring tool as needed (RIDE, 2007).

Dependent Variable

The dependent variables for this study were the students' behaviors that were being monitored. These behaviors, which can be considered as inappropriate behaviors, were out of seat without permission, tardy to class, number of days spent in in-school suspension, talking without permission, disrupting class, or being disrespectful. Student tardy was identified as

student entering the class after the period bell had sounded and teacher door was closed. Student out of seat was defined as the student standing up without permission no matter what task they are completing. In-school suspension was also counted when students were not in class because of prior behavior referrals and in the student missed biology class because in-school suspension was required. Talking without permission was defined as students socializing with peers or yelling out answers without being called on to do so. Class disruptions were identified as student making noises by talking, tapping, singing, or anything else that caused attention or distraction by peers. Being disrespectful was defined as student not following teacher request or speaking to a teacher in a manner that is unacceptable to an adult.

Measures and Data Collection

An initial evaluation (see Appendix C) was completed for each student. The initial evaluation form was adapted and modified based on an evaluation developed by Dr. Lori Newcomer for her CNC Module (Christenson et al., 2008). The initial evaluation consisted of student name, and gender. Additional helpful information that was on the form was the student's living situation, types of services the student received for behavior, and his/her ethnicity. Information of student's prior behavior before beginning the CNC intervention was also included in order to give mentors ideas of what behaviors should be targeted. After this information was collected, then baseline data collection began.

Student behavior data were recorded using the student behavior report card (see Appendix D) that is provided to teachers on a monthly basis. This form was similar to that of Dr. Lori Newcomer (Christenson et al., 2008) but again modified to better meet the needs of students that participated in this research. Each form contained enough space for five weeks. Students

were rated by the number of occurrences they displayed under each behavior. Tally marks were recorded and calculated to measure student daily number of inappropriate behaviors.

Implementation Procedures

During week 1, once signed parental consent forms (see Appendix A) teacher consent forms (See Appendix B) and signed student assent forms (see Appendix E) were received the study began with the baseline data collection phase. Each teacher was given a copy of the selected student's behavior report card (see Appendix D) in order to track behavior. The lead mentor delivered the behavior report card (see Appendix D) and provided an explanation on the research and the teachers' roles in the study. Teachers were trained how to use behavior report cards and how to identify a behavior and how to respond. Each student was to be observed only during their Biology class. Student conferences were held with each student the next day after conclusion of baseline for each student. Students did not know when their baseline data were being collected until the lead mentor pulled student aside and explained it to them. Baseline was done on each student for a minimum of three days or until students displayed a consistent number of inappropriate behaviors. Baseline confidentiality was done in order to keep students from influencing each other during research by not knowing which other students are participating in the study. Each student stayed in baseline until data were stable within 50% of the mean. Once the first student displayed at least 3 stable baseline points he/she moved into the experimental intervention stage and the remaining students continued with baseline until the first student finished intervention and the next student displayed at least 3 stable baseline points of inappropriate behaviors. This process was repeated until all students completed baseline and intervention phases and all data were collected.

During the intervention stage, the lead mentor met individually with each student as he/she prepared to begin the intervention and explained the CNC intervention and behavior data sheets (see Appendix D) that were used. He/she met each morning with the lead mentor for 5 minutes to discuss goals and classroom expectations based off of student inappropriate behavior. Once daily expectations were explained the student would follow their daily scheduled as planned by the counselor at the beginning of the year. Each student was observed during their Biology class by the trained teacher and the inappropriate behaviors were tally marked on their daily behavior report card. Once students completed all classes for the day they were required to meet for 5 minutes at the end of the day to participate in a daily reflection period. The lead mentor discussed the areas the student is not meeting school expectations for students as far as behaviors are concerned. They were also taught alternative behaviors to replace those that are seen to be inappropriate. When the 5 day intervention phase was completed for each student, they were monitored in the maintenance phase by the use of the student behavior report card (see Appendix D) but without the check in and check out portion of the intervention for another week, Data were collected exactly the same way data were collected during the baseline phase by the student's teacher without the student knowing that data were being collected.

Data Analysis

A multiple baseline across students design was used to evaluate the effectiveness of the intervention for the participants (Twaney & Gast, 1984). This design allowed for the intervention to be replicated across participants with each participant serving as his/her own control (Twaney & Gast, 1984). A functional relation is established when a change in the dependent variable is evident only after the implementation of the independent variable (Twaney & Gast, 1984). Thus, by implementing the intervention with one student at a time, thus staggering when the students

received the intervention, and only seeing a change in the students' behavior once the intervention is implemented is evidence that the intervention was effective and that there is a functional relation between the intervention and change in behavior (Twaney & Gast, 1984).

The daily behavior report card data was collected, tallied, and graphed for visual representation. Data were graphed to allow a visual comparison of student data during baseline, intervention, and maintenance phases to allow for visual analysis in changes in behavior to determine if the change in behavior was related to the implementation of the intervention for each student. Along with the graphed representation of the data, means were calculated by phase for each student to determine the change in behavior by phase. Means were calculated by adding all daily behavior numbers by phase and dividing by the total number of days for each respective phase.

Fidelity

Fidelity of implementation was recorded using a checklist that was created by the lead mentor in his study (see Appendix F). The checklist was adapted from one that was provided by Mentoring Minds RTI guidebook (2012). Fidelity data were only collected during the intervention phase of the study and only in the classroom to ensure the teachers were using the student daily behavior report card with the students correctly. The lead mentor viewed 100% of the inappropriate behavior data recording that took place in the classroom and completed the checklist to ensure the CNC intervention was implemented as instructed. Fidelity data were collected for three sessions for each participant and those data sheets were kept in a locked filing cabinet in a separate classroom. Upon analysis of the fidelity data, fidelity was 100% for all students for all sessions observed.

Results

Crew

Graphed data for Crew is displayed in Figure 1. During the baseline phase Crew was observed over a period of 8 days. His mean for inappropriate behaviors was 3.375 with a range of 5 to 8 instances of inappropriate behaviors. Crew was in the CNC intervention implementation phase for 6 days. During intervention phase his mean for inappropriate behaviors decreased to 3.16 with a range of 2 to 4 instances of inappropriate behaviors. During the maintenance phase data were collected for an additional 5 days. The mean for number of inappropriate behaviors during the maintenance phase was 2 with a range of 1 to 3 instances of inappropriate behaviors. Due to the reduction of the number of inappropriate behaviors during and after the implementation of the CNC intervention, there was a positive relationship between the implementation of the CNC intervention and inappropriate behaviors for Crew.

Dent

Graphed data for Dent is displayed in Figure 3. During the baseline phase Dent was observed over a period of 14 days. His mean for inappropriate behaviors over the baseline period was 4.85 with a range of 2 to 8 instances of inappropriate behaviors. Dent was observed during the intervention phase for 5 days. During the intervention phase his mean for inappropriate behaviors decreased to 3.2 with a range of 0 to 5 inappropriate behaviors. During maintenance phase data were collected for an additional 5 days. The mean for the number of inappropriate behaviors was 3 with a range of 2 to 3 instances of inappropriate behaviors. Due to the reduction of the number of inappropriate behaviors during and after the implementation of the CNC intervention, there was a positive relationship between the implementation of the CNC intervention and inappropriate behaviors for Dent.

Bre

Graphed data for Bre are displayed in Figure 3. During the baseline phase Bre was observed for 13 days. Her mean for inappropriate behaviors during baseline was 2.77 with a range of 0 to 8 instances of different behavior. Bre was observed during the intervention phase for 5 days. During the intervention phase her mean for inappropriate behaviors decreased to 2 with a range of 1 to 3 instances of multiple behaviors. Bre was then observed for 6 days in the maintenance phase. During the maintenance phase the mean of her inappropriate behaviors was 2 with a range of 1 to 3 instances of multiple behaviors. Due to the reduction of the number of inappropriate behaviors during and after the implementation of the CNC intervention, there was a positive relationship between the implementation of the CNC intervention and inappropriate behaviors for Bre.

Discussion

The purpose of this study was to evaluate the effects of the CNC intervention on student engagement and overall student behavioral performance for three high school students. All three students that were chosen to participate engaged in some type of inappropriate behavior as it was listed on the student behavior report card (see Appendix D). Some of the inappropriate behaviors listed were: out of seat without permission, talking without permission, and disrespectful response to teachers. When baseline data were collected, all three students displayed evidence of daily inappropriate behaviors. Dent had the highest average number of inappropriate behaviors with a mean of 4.85 over a 2 week period. Bre displayed the lowest average of inappropriate behaviors with a mean of 2.77 over 8 days. Crew fell in between the two with an average of 3.375 instances of behaviors over 8 days. During the intervention phase Taylor had the lowest average number of inappropriate behaviors with 2, Dent had the highest average with 3.2, and

Crew's average was in the middle with 3.16. In the maintenance phase, Bre and Crew both displayed the lowest average among the students for inappropriate behaviors with a mean of 2 instances while Dent had a mean of 3 instances of behavior. The fact that all students responded positively to the intervention by decreasing their average inappropriate behaviors is important because this change in their behavior in response to the intervention demonstrates that the CNC intervention was effective for addressing their inappropriate behaviors.

Based on the results from this study, the CNC intervention was considered to be an effective intervention. Data shows that all students displayed some level of improvement by decreasing their total mean of inappropriate behaviors once the intervention was implemented and not before and they continued to have low averages of inappropriate behaviors during maintenance when compared to baseline. Although each student's instances of inappropriate behaviors varied, they all improved.

Strengths of the CNC interventions were noted by teachers for decreasing classroom distractions for other students and having those students with behavioral issues (the participants) more conscious with decision making. Additionally, teachers noted that students' overall mood was more positive towards them after having a positive report the day before. Having the daily report card (behavior) allowed for the teacher to easily make note of the student behavior and redirect without too much of a verbal altercation. The lead mentor was able to meet with the student and address situations while allowing student to physically see what inappropriate behaviors he/she was displaying and how those behaviors were affecting student positive participation in class. This was a strength because it allowed the student to reflect on the situation and the mentor was able to give the student alternative methods of handling problems or behaviors. By the student improving his overall behavior, the student was able to improve

have more positive gains in class by participating in class discussion in a positive manner, receiving positive praises from teachers, and by increasing daily attendance and reducing number of days out of class because of behavioral consequences. No other teacher mentioned any change in behaviors in other classes outside of Biology but that does not mean that a decrease in inappropriate behaviors did not take place.

Results from the current research aligned similar to those of Anderson et al. (2004). They also found the CNC to be successful with student engagement. Their daily behavior report card focused more on work completion, prepared for class, and persistence whereas the current study focused more on inappropriate behaviors such as: out of seat without permission, talking without permission, and disrespectful response to teachers. This showed that more than behavior is measured by CNC. Kreamalmeyer (2013) reported that his results revealed that the program had been effective in decreasing at least one of the following, truancy, dropout rates or behavior incidents, which is the focus of CNC program. Although, the scope of the current study does not evaluate the effect of the intervention on drop-out rates, the hope is that by improving student behavior and engagement that the likelihood that the participants in this study would drop out of school is reduced as found in previous studies. Therefore, the results of this research adds to the current literature related to CNC by adding evidence to the effectiveness of using CNC to address off-task behaviors of 9th grade high school students and improving their engagement in school.

Limitations

There were several limitations that should be considered when interpreting results of this study on CNC. The first limitation that should be recognized is that the students' behavior was only monitored and documented for one class period a day instead of all day as recommended for

the program. The lead mentor was a co-teacher for the class in which students were monitored and only asked for data to be collected in these classes in order to assist with monitoring student behaviors. The number of participants is another limitation in this research. There were only 3 students that participated in this study to represent the effects of the intervention. A larger participant group could show a different result, so generalizing should not be done until the research is replicated.

Another limitation that was observed was the effect the mentor may have had on students. Although the mentor was not the person collecting data on students' behavior in class, he could have had an impact on behavior once students began with intervention stage. Students met with the mentor in the morning and afternoons as the intervention was designed, but the participants were all students in an inclusion class where the mentor served as a co-teacher. Thus, the students knew what they were being watched by the lead mentor during this class period each day and not just checking in/out with him daily. Therefore, this additional contact with the lead mentor could have altered the students' behaviors in the class where the mentor was with them daily. Although, interaction with the mentor is intended to be an important component of the CNC intervention, it is impossible to determine the effect of the mentor on the student behavior in this study due to the fact that the mentor was also one of the students' teachers for one class period a day and not just the person they saw only during check ins and outs daily.

Another limitation that was noticed during the study was one specific teacher's instruction style. Ms. Cox was an older teacher and preferred more of a lecture style of instruction which caused behaviors to be more noticeable than would a behavior in Ms. Ellis' class who preferred a more student centric style with students moving around and interacting

with one another. Therefore, student engagement was different in each class and the participants' behaviors differed by class/teacher due to the differences in instruction.

Lastly, student engagement as defined in the introduction is said to be reflected through student understanding and grades as well as behavior. However, not all components of student engagement were assessed in this research. It was assumed that if students decreased inappropriate and unfavorable overall grades would improve in return but that is not always accurate. There could be a number of reasons students are off-task and inappropriate behaviors may or may not negatively impact student grades. Unfortunately, data were not collected related to grades in this study, therefore there are no data to evaluate the impact of the CNC intervention on the academic performance of the participants.

Implications for Practice

The need for a reduction in students with inappropriate behaviors can be found in almost every class in a high school setting with students with behavior disabilities. Through this research, it was found that the CNC intervention worked well to reduce inappropriate behaviors. Teachers reported that the intervention was easily implemented, thoroughly explained and effective, and did not require much change with their daily schedule. Based on these findings, the participating teachers recommended that the CNC intervention be used with other students in their classrooms as well as other students in the school.

The lead mentor was asked by school administration to report findings and implementation instructions to the school Positive Behavior Interventions and Support (PBIS) lead teacher to use as a method of progress monitoring for other students that struggle with engagement. Although behavior was only monitored during one class period a day, the students' behavior improved and therefore the impact of the mentoring during the check ins and outs may

have been more meaningful than the monitoring of the behavior. The PBIS team and counselors have noted CNC as an intervention that will be used to help improve RTI data for the school

Future Research

There is a great deal of research that has been done using the CNC intervention. The majority of the research to date has been conducted to improve student dropout rate and reduce inappropriate behaviors. More research needs to be done to determine the effect of the CNC intervention on students' academic performance and to determine if there is a relationship between student engagement through the use of a CNC intervention and academic success. The current results of this study conclude that the CNC intervention was effective in decreasing the number of inappropriate behaviors and improving overall student engagement among high school students with behavioral issues. Because there was a positive outcome with three students, future researchers may want to consider using a larger population of students. Possibly consider a group of 10-15 students per mentor.

In the current research the mentor served as a co-teacher in one of the classes that the participants had daily. Having a mentor in the students' classroom could alter student behavior especially if they know exactly what behaviors the mentor is addressing. Future researchers may want to consider ensuring that the only interaction the participants have with the mentor is the daily check ins and outs to ensure that the mentor does not influence the students' behavior during the day. Finally, future research should be conducted using students in the same class or students with the same teacher but in different periods in order to be consistent with teacher's teaching style and instructional delivery to assure data are collected with fidelity to be able to evaluate the true impact of the CNC intervention as opposed to other variables.

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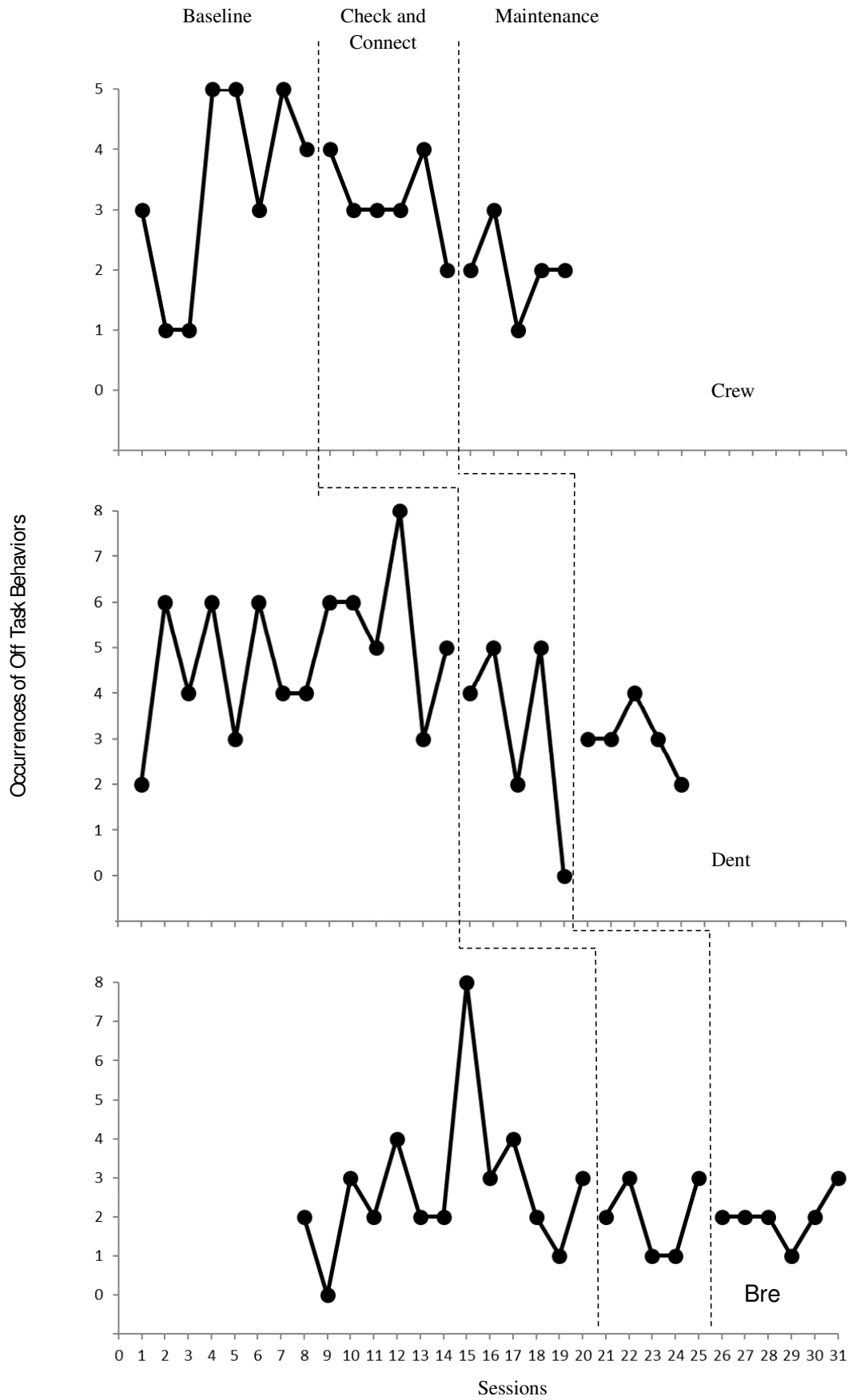
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Figure 1. Graphed Data for Participants.



Appendix A

Parent/Guardian Consent Form

I, _____, give permission for my child, _____, to be a participant in the research The Effects of the Check and Connect student Engagement Intervention conducted by Jarmarcus Johnson, who can be reached at 478-972-1215. I understand that my child’s participation is voluntary; I can withdraw my consent at any time. If I withdraw my consent, my child’s data will not be used as part of the study and will be destroyed.

The following points have been explained to me:

- 1. The purpose of this study is to assess the effects of a Check and Connect system on 9th grade at-risk students to reduce the number of inappropriate behaviors for a given period of time.
2. The procedures are as follows: Teachers will receive a student behavior sheet prior to beginning the intervention. Students will attend class and daily behaviors will be charted. They will meet with a mentor (Jarmarcus Johnson and Lonny Harper) each morning for 5-10 minutes and at the closing of the day for 5-10 minutes. During the meetings students will discuss daily goals and results.
3. You will be asked to sign two identical consent forms. You must return one form to the investigator before the study begins, and you may keep the other consent form for your records.
4. Your child may find that some questions are invasive or personal. If your child becomes uncomfortable answering any questions, he or she may cease participation at that time.
5. Your child will not likely experience physical, psychological, social, or legal risks beyond those ordinarily encountered in daily life or during the performance of routine examinations or tests by participating in this study.
6. Your child’s individual responses will be confidential and will not be release in any individually identifiable form without your prior consent unless required by law.
7. The investigator will answer any further questions about the research (see above telephone number).
8. In addition to the above, further information, including a full explanation of the purpose of this research, will be provided at the completion of the research project on request.

Signature of Investigator Date

Signature of Parent or Guardian Date

(If participant is less than 18 years of age)

Research at Georgia College & State University involving human participants is carried out under the oversight of the Institutional Review Board. Address questions or problems regarding these activities to Mr. Marc Cardinalli, Director of Legal Affairs, CBX 041, GCSU, (478) 445-2037

Appendix B

Teacher Consent Form

I, _____, agree to participate in the research, The Effects of the Check and Connect student Engagement Intervention conducted by Jarmarcus Johnson, who can be reached at 478-972-1215. I understand that my participation is voluntary; I can withdraw my consent at any time. If I withdraw my consent, my data will not be used as part of the study and will be destroyed.

The following points have been explained to me:

1. The purpose of this study is to assess the effects of a Check and Connect system on 9th grade at risk students to reduce the number of inappropriate behaviors for a given period of time.
2. The procedures are as follows: Student will attend class following their normal schedule. They will meet with a mentor (Jarmarcus Johnson and Lonny Harper) each morning to begin their day and at the closing of each day for 5-10 minutes. Students will be informed of the meeting location. During the meetings students will discuss daily goals and results. Student will also be able to discuss any problems or concerns they may have while transitioning into the high school culture.
3. Students' names will not be listed on data sheets in order to keep confidentiality but they will be issued a random number.
4. You are not likely to experience physical, psychological, social, or legal risks beyond those ordinarily encountered in daily life or during the performance of routine examinations or tests by participating in this study.
5. Your individual responses will be confidential and will not be release in any individually identifiable form without your prior consent unless required by law.
6. The investigator will answer any further questions about the research (see above telephone number).
7. In addition to the above, further information, including a full explanation of the purpose of this research, will be provided at the completion of the research project on request

Signature of Investigator

Date

Signature of Teacher

Date

(If participant is less than 18 years of age)

.....
 Research at Georgia College & State University involving human participants is carried out under the oversight of the Institutional Review Board. Address questions or problems regarding these activities to Mr. Marc Cardinalli, Director of Legal Affairs, CBX 041, GCSU, (478) 445-2037

Appendix C

Check & Connect Intake Form

Information should be based on student status at time of referral:

Student name _____ Date of signed permission _____

Student ID _____ Monitor/Mentor _____

Date of birth _____ Grade at referral _____

Gender Male Female

Ethnicity / race

- African American
- American Indian/ Native
- Alaskan
- Asian or Pacific Islander
- Caucasian
- Hispanic
- Other _____

Special Services

- Special Education
- Title 1
- ELL
- None
- Don't know

Residence

- Lives with parent(s)/ guardian
- Lives with other family
- Lives with foster parent(s)
- Out-of-home placement
- Single parent home
- Other _____

Indicate the at-risk behaviors the student has engaged in, as documented by records

Behavior	Since the beginning of the current school year and prior to intervention				During the prior academic year			
	Mark one box			If yes	Mark one box			If yes
	Yes	No	Don't know	# of times	Yes	No	Don't know	# of times
Late to school (excused/unexcused)								
Absent (excused/unexcused)								
Behavior Referrals								
Detention								
Bus Incidents								
Suspension								
Poor Academic Performance								
Grade Retention								
Out-of-home Placements								
Running Away								
Substance use or abuse								

Does student have a history of withdrawal Yes No Don't know (e.g. absences) prior to DATE

Family Risk / Stressor:

- English second language
- Homeless/ Shelter
- Siblings with history of school
- Unemployment

Appendix D

Student Behavior Report Card

Month _____ Student _____

Mentor _____

	DATE																				Risk
<i>CHECK</i>	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	M	T	W	T	F	Indicator
Talking w/o permission																					≥ 5
Out of Seat																					≥ 3
Disrespectful																					≥ 4
Behavior referral																					≥ 3
Detention																					≥ 2
In-school suspension																					≥ 2
Out-of-school suspension																					≥ 2
Failing Grades	_____ D's _____ F's															risk indicator ≥ 1 F and/or ≥ 2 D's per grading period					

CONNECT

BASIC

Shared general information

Provided regular feedback

Discussed positives and negatives of behavior

Appendix E

Student Assent Form

I, _____, agree to participate in the research The Effects of the Check and Connect student Engagement Intervention conducted by Jarmarcus Johnson, who can be reached at 478-972-1215. I understand that my participation is voluntary; I can withdraw my consent at any time. If I withdraw my consent, my data will not be used as part of the study and will be destroyed.

The following points have been explained to me:

8. The purpose of this study is to assess the effects of a Check and Connect system on 9th grade at risk students to reduce the number of inappropriate behaviors for a given period of time.
9. The procedures are as follows: Student will attend class following their normal schedule. They will meet with a mentor (Jarmarcus Johnson and Lonny Harper) each morning to begin their day and at the closing of each day for 5-10 minutes. Students will be informed of the meeting location. During the meetings students will discuss daily goals and results. Student will also be able to discuss any problems or concerns they may have while transitioning into the high school culture.
10. Students' names will not be listed on data sheets in order to keep confidentiality but they will be issued a random number.
11. You will be asked to sign two identical consent forms. You must return one form to the investigator before the study begins, and you may keep the other consent form for your records.
12. You may find that some questions are invasive or personal. If you become uncomfortable answering any questions, you may cease participation at that time.
13. You are not likely to experience physical, psychological, social, or legal risks beyond those ordinarily encountered in daily life or during the performance of routine examinations or tests by participating in this study.
14. Your individual responses will be confidential and will not be release in any individually identifiable form without your prior consent unless required by law.
15. The investigator will answer any further questions about the research (see above telephone number).
16. In addition to the above, further information, including a full explanation of the purpose of this research, will be provided at the completion of the research project on request

Signature of Investigator

Date

Signature of Participant

Date

Signature of Parent or Guardian

Date

(If participant is less than 18 years of age)

.....
 Research at Georgia College & State University involving human participants is carried out under the oversight of the Institutional Review Board. Address questions or problems regarding these activities to Mr. Marc Cardinali, Director of Legal Affairs, CBX 041, GCSU, (478) 445-2037

Appendix F**Fidelity Checklist**

1. The behavior areas in which will be observed have been explained clearly for understanding?

Yes No

2. The goal(s) for the student were described in measurable terms?

Yes No

3. A method for measuring progress toward the goal was described?

Yes No

4. Interventions to improve student performance were designed and adjusted based on student progress?

Yes No

5. The teacher was provided the time, materials, and training to implement the intervention plan?

Yes No

6. The parent of the student receiving intervention had the opportunity to be involved in the intervention process?

Yes No

7. An implementation integrity measure (direct observation, self-report, interview, permanent products, or manualized intervention) was completed to check how the intervention was being implemented?

Yes No

8. The schedule for reviewing the intervention plan and progress monitoring was followed?

Yes No

9. The student was in attendance in school and engaged in the intervention activities?

Yes No

10. All parties followed the written intervention plan? If no, describe how the instruction deviated from the intervention plan.

Yes No

Notes:

Signature