THE STUDENT-GUIDED SUPPORTS CURRICULUM

by

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DISSERTATION ABSTRACT

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Title: The Student-Guided Supports Curriculum

This study sought to evaluate the effect of participation in the Student-Guided Supports (SGS) curriculum on student behavior. The SGS curriculum was designed to teach students a set of simple behaviors to prompt and reinforce supportive teacher behavior. Student use of the SGS behaviors was hypothesized to initiate a constructive cycle of student-teacher interactions that increase teacher display of supportive behaviors and student display of SGS behaviors and academic engagement. Results of the study provided evidence of a functional relation between participation in the SGS curriculum and increased student use of requests for teacher feedback. They also provided evidence of a functional relation between student requests for feedback and teacher provision of feedback. While this study did not provide evidence of the establishment of constructive cycles of support it did offer the following: a) high school teachers typically engaged in low levels of the identified support behaviors, and b) students were able to reliably elicit these supportive behaviors by engaging in relatively simple prompting behaviors. Potential implications of the results and future research are discussed.

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Dedicated to K. A. L.

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INTRODUCTION

Statement of the Problem

Transitioning from middle school to high school marks a turning point in the lives

of adolescents (Frasier, 2007; McCallumore & Sparapani, 2010; McIntosh, Flannery,

Sugai, Braun, & Cochrane, 2008; Neild, 2009; Schiller, 1999; Weiss & Bearman, 2007).

Students who make a successful transition to high school must learn to adapt to a host of

changes from their experiences in middle school. Research shows however that many

students are largely unsuccessful in making this transition. Weiss & Bearman (2007)

noted that student grades typically decline, the likelihood of academic and social failure

increases, and school absences become more frequent following the transition to ninth

grade.

Neild (2009) offered four possible theories as to why ninth grade students

struggle academically. The first theory is that entrance into ninth grade occurs at a time

of reduced parental supervision and increased peer influence. Research has shown that

parents indeed give their children greater autonomy when they enter high school

(Schiller, 1999). Research has also shown that lower levels of parental monitoring and

encouragement of achievement in high school were associated with lower levels of

academic achievement (Brown, Mounts, Lamborn, & Steinberg, 1993). In her prior

work, Neild, Stoner-Eby, and Furstenberg (2008) described the potential deleterious

effects of the greater autonomy afforded to ninth grade students thusly: "Large high

schools provide abundant opportunities for skipping class to roam school hallways and

hang out with friends" (p. 548). Students that are not adequately monitored by their

parents may have difficulty adjusting to the high school environment, although Neild (2009) noted that this theory could not be the sole reason for the observed declines in academic performance that occur in ninth grade.

The second theory is that students must break the bonds they formed with teachers and peers from their middle schools. The empirical support for this theory is mixed as Schiller (1999) found that students that struggled academically in the eighth grade benefited from attending a high school where a majority of students came from different middle schools, while students high academic achievement in middle school benefited more from attending a high school with many of their middle school peers. The plausibility of this theory appears to be dependent upon the prior academic achievement of the student.

The third theory was that some students are not prepared for high school. Neild (2009) cited evidence that middle school grades in English and Mathematics were a stronger predictor of academic failure in high school than student performance on standardized tests. The author noted that this finding indicated that academic success in ninth grade was dependent upon more than just content knowledge. Academic attitudes and behaviors were also thought to contribute to ninth grade achievement.

The fourth and final theory offered by Neild (2009) was that the organization of high schools contributes to student struggles. The author noted that in traditional high schools, teachers are organized by academic departments and have little communication with their extra-departmental colleagues. As a result, there is little communication across courses and therefore struggling students go largely unnoticed. The author also

commented that many high school teachers are either unwilling or unable to support ninth grade students with weak academic skills.

Each of the theories may be beneficial in understanding why so many ninth grade students struggle after the transition to high school. In response to these and other concerns in high schools, there has been a move toward implementing multi-tiered, school-wide systems of academic and behavioral support (Bohanon, Fenning, Eber, & Flannery, 2007; Flannery, Sugai, & Anderson, 2009). The promise of school-wide approaches is the possibility of identifying students in need of additional supports in a timely manner; while problems can be resolved in a typical school setting. Students are targeted based upon meeting one or more established criteria (e.g. attendance issues, academic failure, office discipline referrals), they are provided with needed supports, and their progress is monitored to evaluate any effects of these supports. While the research on school-wide support systems in high schools has yet to reach the breadth and depth of the research in elementary and middle school, it appears as if such approaches are viable for improving the educational outcomes of high school students.

Despite this move toward the school-wide provision of timely student supports, the vast majority of instruction and assessment (i.e. grades, awarding of credits) remains the responsibility of students' regular classroom teachers. Research has shown that students with academic and behavior problems often experience largely negative interactions with their teachers (Firestone & Brody, 1975; Gunter & Coutinho, 1997; Scott, Alter, & Hirn, 2011; Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008). These interactions can result in low levels of student academic engagement which in turn worsens existing academic problems. The provision of academic and social supports

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alone may not be sufficient to improve the academic achievement of ninth grade students. It also appears necessary to change the quality of student-teacher interactions in order to create classroom environments in which students at risk of academic or social failure are more academically engaged and therefore more likely to earn passing grades and accrue credits toward graduation.

Research has shown that student behavior impacts teacher behavior (Gunter, Denny, Jack, Shores, & Nelson, 1993; Gunter et al. 1994). By teachings ninth grade students the skills they need to recruit and sustain necessary levels of teacher supports, we make them advocates for their own education. Although students are rarely taught how to appropriately recruit supportive teacher behavior, doing so may be necessary to help combat the poor academic and social outcomes observed in ninth grade. What follows is an expanded literature review that: a) describes the contextual issues in high school that contribute to student academic and social failure, b) provides a model for understanding the negative student-teacher interactions that occur in high school classes, and c) provides the logic behind teaching students a small set of behaviors designed to effectively recruit and sustain supportive teacher behavior.

Literature Review

High school context. High schools are generally more complex in organization and structure than middle schools. On average they boast larger student populations, larger class sizes, and greater diversity in course offering than lower grades (National Center for Educational Statistics, 2012). Blatchford, Bassett, and Brown (2011) studied 686 primary and secondary students across 49 schools and found that there was a negative relationship between class size and student academic engagement such that

larger classrooms had lower engagement. They also found that students in smaller

classes experienced greater quantity and quality in student-teacher interactions.

Lee and Smith (1997) analyzed data from the National Educational Longitudinal

Study (NELS) and reported that as school size increases student academic achievement

declines. They also found that observed achievement gains were more evenly distributed

across students of diverse backgrounds in smaller schools than in larger schools. Bryk

and Thum (1989) found a positive correlation between school size and student dropout

which indicated that as school size increased so did the number of school dropouts

In addition to structural differences between high schools and middle schools,

high schools also employ multiple administrators and a larger number of faculty and staff

members (Flannery et al., 2008). Organizationally, teachers in high school settings are

typically organized by academic department rather than grade level (Neild, 2009). These

differences pose challenges for effective faculty communication. As a result, there is an

increased likelihood that students could be at risk of academic or social failure in multiple

classes without the awareness of multiple adults in the building.

The transition to high school is accompanied by increased academic standards and

reduced levels of student engagement (Eccles, Lord, & Midgely, 1991; Seidman, Allen,

Aber, Mitchell, & Feinman, 1994). McIntosh, Flannery, Sugai, Braun, and Cochrane

(2008) found that 35% of ninth grade students in one school district needed additional

academic or social supports. Moreover, , the responsibility for managing academic and

social behavior shifts from teachers during middle school to students during high school

(Schiller, 1999). Furthermore, the transition to high school brings about changes in how

students are evaluated. Students must not only demonstrate competence in specific

academic subject area, but they must also accumulate credits across multiple years in order to graduate. Making credit accrual particularly problematic is evidence that many ninth grade students do not fully understand that they must earn credits to graduate (Neild et al., 2008).

The marked differences between middle school and high school leave many ninth grade students at an increased risk of academic or social failure. Although the structural and organizational changes between school levels contribute to these observed decreases in student performance, at least some of these changes can be explained by what occurs in students' classrooms.

Student-teacher interactions. Research has shown that there are reciprocal effects of student classroom behaviors on teachers and teacher behavior on students (Gunter & Coutinho, 1997; Gunter et al., 1993; Gunter et al. 1994; Sutherland & Morgan, 2003; Sutherland & Oswald, 2005). Typical classrooms are designed to facilitate the effect of teacher behavior on student behavior. Teachers provide instruction in a variety of academic and social areas then assess student acquisition and mastery of this content. In this way, the primary responsibility of teachers is to affect the cognitive and behavioral development of students. Students also affect teacher behavior. Wehby, Tally, and Falk (2004) studied the effects of student problem behavior on specific teacher behaviors. Participants included seven students, aged nine and ten, that received special education services for one or more of the following disabilities: a) learning disability, b) emotional behavioral disturbance, c) language, or d) health impaired. Functional Behavior Assessments were conducted prior to the study to determine the function (i.e. escape or attention) of each student's problem behaviors. Direct observation measures were used

to monitor teacher-student interactions. Specifically, observers recorded the number of: 1) opportunities to respond provided to students, 2) reprimands, 3) instances of teacher praise, and 4) minutes of teacher instruction. Results of the study showed that on average students whose problem behavior function was identified as escape received less teacher talk and opportunities to respond than did students with attention maintained problem behavior. No statistically significant differences in the level of praise or reprimands were found between the two behavioral functions. These findings are important in that they provide some evidence that students that escape or try to disengage from instruction receive less individualized academic attention from their teachers—at least in comparison to students with attention maintained behavior.

Sutherland, Wehby, and Copeland (2000) investigated the effects of increasing teacher praise on the on-task behavior of nine students diagnosed with emotional disturbance. The researchers used verbal feedback to increase teacher rates of behavior specific praise statements (BSPS). The rate of BSPS increased from 1.3 statements in baseline to 6.7 statements during the initial intervention phase. The rate of BSPS decreased to 1.7 statements during the withdrawal phase before increasing to 7.8 statements in the second intervention phase. Changes in the on-task behavior followed the same pattern as teacher of BSPS. During baseline the mean percentage of on-task intervals was 48.7%. This percentage increased to 85.6% during the initial intervention phase and decreased to 62.2% in the withdrawal phase. The percentage of on-task intervals increased to 83.3% during the second intervention phase. Results of this study showed that changes in teacher behavior were accompanied by similar changes in student behavior.

Sutherland and Morgan (2003) more fully described the reciprocal effects of student and teacher behavior in their discussion of transactional processes in the classroom. The authors noted that a student's behavior at any point in time was not solely the result of the immediately preceding teacher behavior, but rather represented the cumulative effects of teacher-student interactions. Reciprocal effects of teacher and student behavior have been observed both in studies of student problem behavior and their response to instruction (Carr, Taylor, & Robinson, 1991; Wehby, Symons, Canale, & Go, 1998).

Coercion Theory. Coercion Theory (Patterson & MacCoby, 1980; Snyder, Cramer, Afrank, & Patterson, 2005; Snyder & Patterson, 1986) posits that the behavior of individuals in a dyad is shaped by positive and negative reinforcement. When one party initiates a demand, the other party responds with a display of aversive behavior. When the first party removes the demand the second party ceases the aversive behavior. Over time the aversive behavior response displayed by the second party in positively reinforced while the withdrawal of demand behavior of the first party is negatively reinforced. The following example provides an illustration. Consider a teacher and a student; the teacher expects the student to: (a) attend to instruction, (b) respond appropriately to teacher inquiries, (c) meet established standards for work completion, and (d) refrain from engaging in problem behavior. To achieve this goal the teacher engages in typical, class-wide instruction (e.g. large and small group instruction, worksheets, predictable schedule of assignments). The student however finds the classroom context and therefore the teacher aversive. The student's goal is to escape/avoid facets of the classroom context. The student attempts to achieve this goal

by: (a) not attending to instruction, (b) refusing to respond to teacher inquiries, (c) infrequently completing assigned work that meets teacher standards, and (d) engaging in problem behavior. The teacher may then attempt to remedy the student's undesirable response to typical, class-wide instruction/expectations by providing individualized attention to the student. This individualized attention may include: (a) redirecting student attention to relevant classroom materials, (b) providing incentives for the student to respond to inquiries, (c) providing additional support for assignment completion, and (d) responding to problem behavior with aversive consequences. In response, the student escalates the undesirable behavior in an ongoing attempt to escape the aversive situation. What ensues is a cycle in which individualized, supportive teacher behaviors targeting the student are diminished, while the escape/avoidance behaviors of the student are reinforced. This cycle creates an ineffective learning environment wherein neither party is exposed to sufficient positive reinforcement to maintain desirable classroom behaviors. Unfortunately, evidence suggests that students at risk for academic or social failure experience few or largely negative interactions with their teachers (Firestone & Brody, 1975; Gunter & Coutinho, 1997; Scott et al., 2011; Skinner & Belmont, 1993; Sutherland et al., 2008). Although much of the empirical work supporting coercion theory has involved parents and their children (Patterson & MacCoby, 1980; Snyder & Patterson, 1986) the theory is helpful in understanding the negative interaction cycles between high school students at risk for academic or social failure and their teachers.

Self-management. Given the expectation that students in high school assume greater responsibility for their academic and social behavior (Schiller, 1999) along with the findings that student and teacher classroom behavior can and do have reciprocal

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effects (Sutherland & Morgan, 2003; Wehby et al., 1998), it is important that students with academic and behavioral difficulties learn to manage their own behavior. One strategy for developing these skills is provided by Dalton, Martella, and March-Martella (1999) who described self-management as: 1) personal goal setting, 2) self-monitoring, 3) self-evaluation and recording, 4) self-reinforcement, and 5) self-charting. Personal goal setting interventions requires students to create one or more behavioral goals. Self-monitoring requires students to self-observe their own behavior in a specific setting or context. Self-evaluation and recording involves students evaluating their own behavior relative to a predetermined standard (e.g. personal goal) and recording the observations of their behavior. Self-reinforcement involves students accessing preferred stimuli contingent upon meeting a predetermined behavioral goal or target. Finally, self-charting requires students to graphically display their self-recording data (Rafferty, 2010).

Self-management interventions have produced positive effects across age and ability levels in both academic and social behavior (Briere & Simonsen, 2011; Briesch & Chafouleas, 2009; Ninness, Fuerst, & Rutherford, 1991; Peterson, Young, West, & Peterson, 1999; Shapiro, DuPaul, & Bradley-Klug, 1998). Gureasko-Moore, DuPaul, and White (2006) studied the effects of a self-management intervention with three seventh-grade male students diagnosed with Attention Deficit Hyperactivity Disorder. Students were taught to self-monitor the following classroom preparation behaviors: 1) arrives on time for class instruction, 2) is ready and prepared to begin class, 3) has paper/notebook, 4) has pen/pencil, 5) hands in sufficiently completed homework on time, and 6) completes homework. Students completed a check list including these behaviors during each class period. Results showed that each of the participants demonstrated an increase

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in the percentage of preparation behaviors during the self-monitoring and maintenance phases. The students' teachers also rated the use of self-management procedures as highly acceptable and reported that they would recommend such strategies to their fellow teachers.

In another study Todd, Horner, and Sugai (1999) implemented an intervention comprised of self-monitoring with self-evaluation and self-recruitment of teacher praise with a fourth grade, male student diagnosed with learning disabilities in reading and math. The student was provided with a headphones and an audiotape that included prompts for him to self-observe and self-evaluate whether or not he was on-task. After being on-task for a predetermined number of prompts, the student was allowed to recruit teacher praise. Results showed an increase in the student's on-task behavior, assignment completion, teacher perception of classroom performance, and a decrease in problem behavior during the self-management phases of the study. Of particular interest in the Todd et al. study was the self-recruitment of supportive teacher behavior (i.e. teacher praise) component. Results of a pre-study functional behavior assessment showed that the student's problem and off-task behaviors were maintained by teacher attention. In other words the student needed higher rates of teacher attention to be academically and socially successful than what was typically available in the classroom environment. Thus, results of the study showed that the student could be taught to successfully recruit needed support using socially appropriate behavior. Similar results were reported by Mank and Horner (1987) who used similar self-monitoring, evaluation, and recruitment procedures to improve the work rate of job tasks among six young adults diagnosed with severe disabilities.

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While self-management interventions have been used extensively to alter student behavior within classrooms, there has been a growing trend in education to implement school-wide systems of academic and behavioral supports to improve student outcomes across school settings.

School-wide positive behavior supports. The latest version of the SWPBS Implementation Blueprint and Self-assessment (Sugai et al., 2010) describes SWPBS as:

A framework or approach comprised of intervention practices and organizational systems for establishing the social culture, learning and teaching environment, and individual behavior supports needed to achieve academic and social success for all students. (p. 12)

SWPBS is not in and of itself an intervention but instead provides a systemic scaffold to support the implementation and monitoring of evidenced-based practices and interventions. SWPBS has been described as the integration of four elements: 1) Operationally defined and valued outcomes, 2) Research validated practices, 3) Behavioral and biomedical science, and 4) Systems change (Sugai et al., 2010). SWPBS is a system of graduated interventions and supports to address student problem behavior at a primary, secondary and tertiary level.

Primary or universal supports and interventions target all students within a school. The goal of primary supports is to prevent the development of problem behavior among all students (Sugai et al., 2000; Walker et al., 1996). Primary prevention is designed to meet the support needs of all students by: 1) providing explicit instruction in academic and social expectations, 2) providing appropriate consequences for problem behavior, 3) acknowledging appropriate behaviors, 4) creation of systems designed to collect and

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evaluate student and school level data, and 5) developing a team to implement and monitor school-wide interventions and supports.

Secondary level supports provide more intensive supports to students that do not respond to primary supports. The purpose of this secondary level is to reduce the number of current cases of problem behavior (Sugai et al., 2000; Walker et al., 1996). Secondary supports involve group-based interventions that address academic (e.g. tutoring, remediation) and social (e.g. anger management) support needs among students who require additional support. Walker and colleagues (1996) recommended that no more than 15% of students should need secondary level support.

Tertiary supports are reserved for the presumably small percentage (i.e., 5%) of students who do not respond to primary or secondary level supports. This tertiary level seeks to reduce the intensity and complexity of current cases through the use Functional Behavioral Assessment (FBA) and individualized plans of support (Sugai et al., 2000; Walker et al., 1996). Tertiary supports may include multi-component interventions such as wraparound services (Eber, Sugai, Smith, & Scott, 2002).

A number of studies have shown that implementation of SWPBS is effective for reducing overall levels of problem behavior within schools, for improving teacher collaboration around issues pertaining to student behavior, and for improving teacher behaviors including classroom management. Bradshaw, Koth, Thornton, and Leaf (2009) compared rates of Office Discipline Referrals (ODR) between schools trained and not trained in SWPBS and found that SWPBS schools reported significant decreases in the total number of, and percentage of students with ODRs.

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Barrett, Bradshaw, and Lewis-Palmer (2008) reported similar findings in their study of Maryland schools. Schools that completed SWPBS training reported 72% fewer ODRs than schools that did not complete training. Additional studies have supported the efficacy of SWPBS at the universal level (Bradshaw, Mitchell, & Leaf, 2010; Bohanon et al., 2006; Horner et al., 2009; Muscott, Mann, & LeBrun, 2008), however the vast majority of this research has been conducted in elementary school settings (Flannery, Sugai, & Anderson, 2009).

Something on how training in SWPBS can change teacher behaviors would be good here

SWPBS in high school. The majority of prior research on SWPBS has been conducted in elementary school settings (Flannery, Sugai, & Anderson, 2009). However, one of the most promising features of SWPBS in high schools is that it provides opportunities for the early identification of students at risk of academic and social failure. When SWPBS is implemented district-wide it can facilitate communication between schools, particularly during the transition from middle to high school. Early identification is critical during high school because course failures during ninth grade decrease the likelihood of high school graduation (Neild et al., 2008). Thus, providing appropriate supports to address the needs of incoming freshmen may increase academic achievement and graduation rates (Bohanon, Flannery, Malloy, & Fenning, 2009).

To date, few empirical investigations of the effects of implementing SWPBS in high school settings have been published. Bohanon and colleagues (2006) published a case study of their experiences in implementing SWPBS in one high school in Chicago. . The school served approximately 1,800 students from culturally diverse backgrounds

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with 89% of students eligible for free or reduced price lunch. At initial implementation

the school faced a number of issues including poor student attendance (i.e. 86% average

daily attendance) and a high dropout rate (i.e. 19%). Although the school failed to meet

the minimum recommended level of SWPBS implementation, after three years

significant increases in staff perception SWPBS implementation and decreases in student

ODRs were observed.

In a follow-up to the 2006 study, Bohanon and colleagues (2012) published a case

example of SWPBS implementation in another high school in Chicago. . At the start of

implementation the school served 1,738 students, 90% of which were eligible for free or

reduced priced lunch. The school had a low average daily attendance (i.e. 78%) and

relatively high dropout rate of 15%. Results of the study showed a significant reduction

in ODRs after the first year of full SWPBS implementation. The authors suggested that

the observed decreases in ODRs could be directly translated to increased instructional

minutes (i.e., student engaged time), which has the potential to improve student academic

achievement.

The aforementioned studies focused on SWPBS implementation in high school at

the universal level. Much less is known about effective secondary and tertiary

interventions in high schools. Bohanon and colleagues (2007) suggested the following

components to providing support beyond the primary level: 1) embed self-determination

within the general education universal primary curriculum, 2) increasing teachers' ability

to use function-based teaching approaches, 3) use of functional assessment processes to

identify needs for groups of students and individual students, 4) providing futures

planning processing (if student quality of life needs are an issue), 5) implementing

wraparound approaches if the complexity of student's needs require additional resources, and 6) implementing a systematic mechanism for the identification of students who require steps two through five.

One intervention that has shown promise as a secondary intervention is the Behavior Education Program (BEP; Crone, Horner, & Hawken, 2004). Schools develop data-based decision rules (component 6) for entering and exiting students from the BEP. As part of the BEP students receive positive oral and written performance feedback from teachers on their social and/or academic behavior throughout the school day. The BEP has been shown to be effective at decreasing the problem behavior of elementary and middle school students (Filter et al., 2007; Hawken, MacLeod, & Rawlings, 2007; Todd, Campbell, Meyer, & Horner, 2008; Simonsen, Myers, & Briere, 2011). A high school version of the BEP combines the positive adult contacts and performance feedback of the BEP with explicit instruction in a number of skills associated with improved academic achievement (HS-BEP; Swain-Bradway & Horner, 2010). The HS-BEP addresses many of the correlates of academic and social failure (e.g. supported work completion, test taking and study skills, intervention for problem social behavior) by increasing student self-management. An early investigation of the HS-BEP showed positive effects on student academic engagement (Swain-Bradway, 2009).

The magnitude of academic and social problems observed in ninth grade, increased expectations of student self-management, and interrelationship of teacher and student classroom behavior, suggest an opportunity to teach high school students how to effectively recruit supportive teacher behaviors.

Behaviors. A number of teacher behaviors have been shown to contribute to student academic achievement.

Teacher support behaviors. Teachers engage in a number of in-class behaviors that support students. From the time students enter the classroom at the beginning of the period until the final bell rings teachers engage in a number of behaviors that increase on-task behavior, aide in student mastery of academic content, increase the likelihood that students successfully complete assignments and activities, and provide valuable information about student performance. The following teacher behaviors are those that: a) require minimal teacher effort, b) are likely to result in improved student classroom performance, and c) are likely to be observed in many high school classrooms.

Greeting. Greeting students has been shown to increase on-task behavior and decrease latency to task engagement for elementary students (Allday, Bush, Ticknor, & Walker, 2011; Allday & Pakurar, 2007). It has also been used in combination with teacher "small talk" to reduce the out of seat behavior of a 15 year-old student attending a large urban high school (Patterson, 2009). In the Patterson study, a functional behavior assessment identified access to adult attention as the maintaining function of the student's out of seat behavior. Small talk was defined as superficial conversation between the teacher and student, on any topic, lasting between 1-2 minutes. The level of student out of seat behavior decreased from a mean of 5.2 times per class session in baseline, to 0.5 behaviors per class session during the final intervention phase.

Student greetings are also commonly recommended for effective classroom management (Scheuermann & Hall, 2008; Wong & Wong, 2001). Greetings are relatively simple means of initiating positive contact with students and they have the

potential to allow teachers to observe the early warning signs of student problem behavior prior to the beginning of class. Greeting students allows teachers to observe any changes in student appearance or behavior upon their arrival to the classroom. When these changes are observed, the teacher can then intervene if necessary by engaging students in further conversation to identify the problem and provide acceptable solutions.

Individualized support. Individualized supports may include: a) individual checks for understanding, b) further explanation of course content, and c) assistance with assignment or task completion. Schumm and Vaugh (1997) recommended that teachers perform informal member checks as part of instruction. Informal member checks are individualized or small group check-ins with students to gauge their understanding of course material. If students do not understand instructional content, as indicated by results of checks for understanding or student requests for further explanation, it becomes the teacher's role to provide additional instruction with the use of new positive and negative examples (Kame'enui & Simmons, 1990). Additional teacher behaviors that aid in student academic achievement include clarification of task demands, effective prompts, and student referral to key resources (e.g. specific section of a text book, location of classroom materials). These behaviors collectively assist students with assignment or task completion, which is typically a key component in evaluating student classroom performance (i.e. assigning grades).

Advanced notice. Teachers may increase the likelihood that students correctly respond to questions and assist them in their use of organizational skills by providing them with advanced notice of coming requests and activities. Teachers can positively affect student responding by previewing questions that they will be asked and prompting

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students to use specific approaches in answering the questions. Conroy and colleagues (2008) described such teacher behavior as providing a corrective model prior to student responses. Others have characterized similar teacher behavior as pre-corrections. Pre-corrections are antecedent strategies (e.g. prompts, reminders, rehearsals) designed to prevent undesirable behavior (i.e. incorrect or non-responding) and increase the likelihood desirable behavior (i.e. correct responding, task completion). Pre-corrections have been shown to improve student compliance with rules and expectations (Colvin, Sugai, Good, & Lee, 1997; Colvin, Sugai, & Patching, 1993; Lewis, Colvin, & Sugai, 2000) and are a common practice in early reading instruction (Carnine, Silbert, Kame'enui, & Tarver, 2004).

Providing advanced notice can also aid students in demonstrating learned organizational skills. The High School Behavior Education Program (HS-BEP) is a secondary support intervention for high school students identified as being at risk for academic or social failure (Swain-Bradway & Horner, 2010). Among the organizational skills that are targeted by the HS-BEP is student planner usage. Students are taught to keep a record of upcoming assignments or activities and their due dates. By individually reminding students of impending assignments and due dates, teachers may increase the likelihood that students document this critical information in their planners.

Feedback. Casey and McWilliam (2011) defined performance feedback as verbal, written, or graphical feedback given to individuals about their implementation of an intervention during an observation session in an effort to improve their implementation in future observations. The field of organizational behavior management has been a leader in the study of the effects of performance feedback (see Alvero, Bucklin, & Austin, 2001

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for a review). Squires and colleagues (2007) found positive effects of performance

feedback on the greeting and up-selling behaviors of restaurant workers. Loewy and

Bailey (2007) found that performance feedback was effective at improving the customer

service behavior (e.g. customer greeting, eye contact, and smiling) of retail workers at a

national home improvement chain. Performance feedback has also been shown to

improve medical personnel's adherence to universal precautions (Luke & Alavosius,

2011).

In the field of education, performance feedback has been used extensively to

improve treatment integrity of academic and behavioral interventions (Codding,

Feinberg, Dunn, & Pace, 2005; Codding, Livanis, Pace, & Vaca, 2008; DiGennaro,

Martens, & Kleinmann, 2007; Noell et al., 2000; Noell et al., 2005), and teacher use of

student praise (Duchaine, Jolivette, & Fredrick, 2011; Hemmeter, Snyder, Kinder, &

Artman, 2011; Myers, Simonsen, & Sugai, 2011; Reinke, Lewis-Palmer, & Merrell,

2008). Colvin, Flannery, Sugai, and Monehan (2009) used performance feedback to

improve the instructional practices of a high school physics teacher. Colvin and

colleagues conducted three observation and feedback sessions with the teacher over a

nine week period. On each occasion the observation results were used to create and

modify an action plan. Action plan steps focused on: a) decreasing transitions during the

first 20 minutes of class, b) increasing teacher checks for understanding, c) increasing

teacher movement throughout the classroom, d) decreasing teacher talk, e) increasing the

use of pre-corrections, f) introduction of an exit task to promote student engagement

following activity completion, and g) incorporating the entire class when asking

questions. Results of the study showed improvements in each of the target teacher

behaviors as well as student academic engagement and improvements in social behavior.

While many studies of performance feedback have focused on altering teacher

behaviors, a few have targeted students directly. Lingo, Jolivette, and Barton-Arwood

(2009) used verbal and visual feedback (e.g. graphs of performance) to improve the

appropriate behavior of a fifth grade student with an emotional and behavior disorder

during reading instruction. The student was given verbal and visual feedback on her

display of appropriate behaviors. A 61 percentage point increase in the proportion of

intervals with appropriate behavior was observed from baseline to treatment phases.

Teacher feedback is also a critical feature of the Check-In/Check-Out (CICO) component

of the Behavior Education Program (Crone et al., 2004).

Student-guided supports behaviors. A set of five behaviors were selected to

prompt and reinforce the aforementioned teacher support behaviors.

Greeting. Given the potential positive effects of teacher greetings, it is important

to provide students with a simple and efficient means of eliciting this teacher behavior.

Given the typical social interactions of adults it is axiomatic that student initiated

greetings will illicit appropriate responses from teachers (i.e. reply greeting).

Appropriate greetings are also likely to be part of the behavioral repertoire of adolescents

without severe disabilities.

Engaging question. Research has elucidated the reciprocal nature of teacher and

student behavior (Conroy & Sutherland, 2009; Gunter & Coutinho). Teacher behavior is

influenced by both positive and negative student behavior. Students that perform poorly

academically, are disengaged, or demonstrate problem behavior experience less positive

interactions with teachers (e.g. opportunities to respond and praise statements) and thereby become at even greater risk of academic or social failure (Scott et al., 2011). Given this relationship between teacher and student behavior, it is logical to assume that students demonstrating more academic engagement will receive more supportive teacher behavior. Asking engaging questions serves three purposes in the context of classrooms: 1) it recruits socially appropriate teacher attention, 2) it demonstrates student engagement with instructional activities, and 3) it requires students to be engaged in order to formulate, ask, and attend to teacher responses to their questions.

Request for support. The size of high school classes may make it difficult for teachers to provide individualized support to students. It is not uncommon for high school teachers to have upwards of 30 students in the classes they teach. Given the relatively high proportion of students in need of additional academic and social support (McIntosh et al., 2008) a class of 30 students could easily contain 10 or more students in need of additional teacher support. With teacher attention at a premium in many high school classes it is important that students explicitly recruit teacher support using appropriate social behaviors. Student requests for support may elicit supportive teacher behaviors that improve student academic performance.

Acknowledgement of teacher support. Increasing the likelihood of individualized teacher support should be the goal of students at risk of academic or social failure. A simple way to achieve this goal is by acknowledging/reinforcing (e.g. saying "thank you") support immediately after it occurs. Positive reinforcement is a basic principle in the study of human behavior (Skinner, 1974) and is a fixture of educational practice (Scheuermann & Hall, 2008). Scheuermann and Hall defined positive reinforcement as

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"a procedure that maintains or increases behavior as the result of consequences experienced following the behavior" (p. 43). In combination, student requests for and acknowledgement of individualized support is hypothesized to increase the amount of teacher support students receive in class.

Request for feedback. Research has demonstrated a number of positive effects of performance feedback on human behavior (Codding et al., 2005; Codding et al., 2008; DiGennaro & Martens, 2007; Noell et al., 2000; Noell et al., 2005). Teacher feedback is a critical component of secondary support interventions for students at risk of academic or social failure (Crone et al., 2004). Given the emphasis on student self-management that is present in high schools it is reasonable to expect that students can successfully prompt teachers to provide performance feedback. Given the increased focus on student self-management in high schools it is necessary that students initiate teacher feedback.

Constructive cycle. Figure 1 presents a constructive cycle student teacher interactions. Rather than the coercive cycle where students and teachers are negatively reinforced for avoiding interactions, a constructive cycle is one in which both teachers and students are positively reinforced for engaging in behaviors that increase the likelihood of student academic achievement. The SGS curriculum teaches students a set of behaviors to prompt and reinforce supportive teacher behaviors and provides teachers with suggestions for appropriate responses to these behaviors. The SGS target behaviors elicit supportive teacher behaviors, which when demonstrated reinforce student use of the SGS behaviors and their academic engagement, which in turn reinforces supportive teacher behaviors, thus creating the aforementioned constructive cycle of student-teacher interactions.
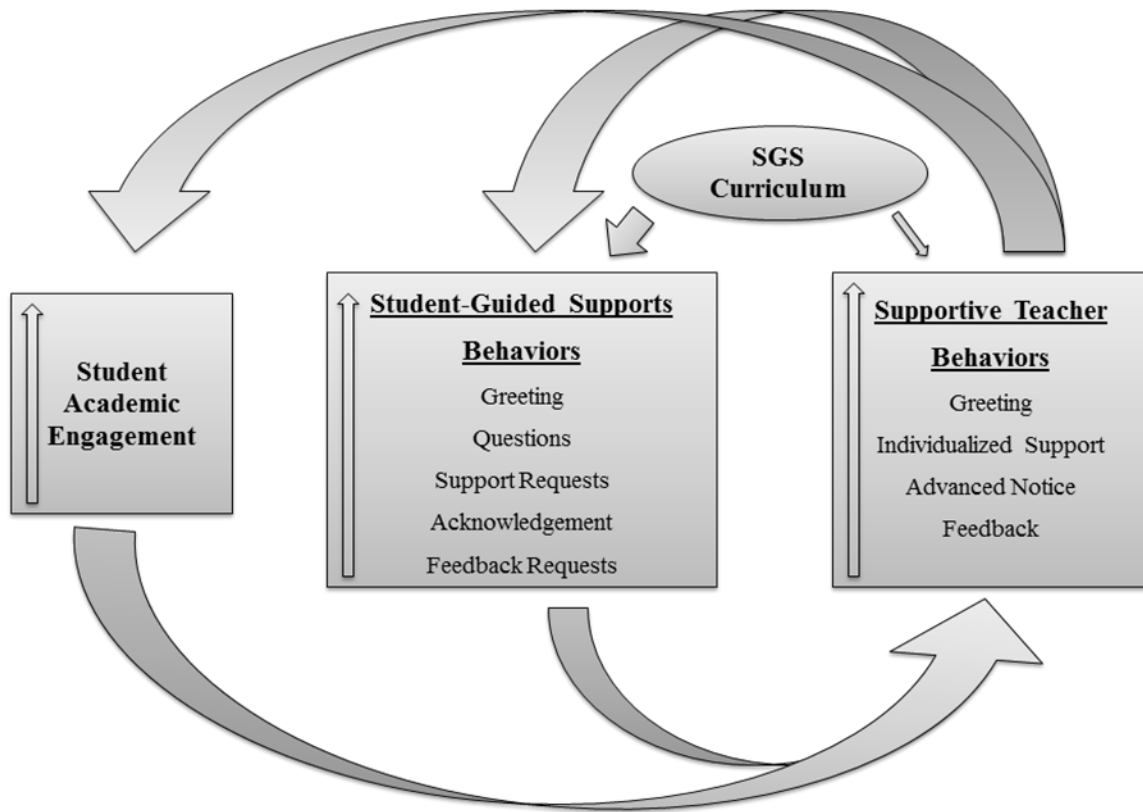
Figure 1. Constructive cycle of student-teacher interactions

Research Questions

The purpose of this present study was to determine: 1) Is there is a functional relation between student participation in the Student-Guided Supports (SGS) curriculum and increases in use of the SGS target behaviors, 2) Is there a functional relation between changes in student use of SGS target behaviors and increased use of teacher support (TS) behaviors, and 3) Is there a functional relation between increases in TS behaviors and increases in student academic engagement?

CHAPTER II

METHODOLOGY

Participants and Setting

This study was conducted in a high school in the Pacific Northwest that served approximately 1,000 students in grades 9-12. Student enrollment was approximately 50% female with approximately 77% of the student population identifying as White, 14% as Hispanic, 4% as Asian/Pacific Islander, 2.5% as American Indian/Alaskan and 2.5% as Black. Approximately 45% of students were eligible for free or reduced-price lunch. As of the 2009-10 school year, the school employed the full time equivalent of 52.7 teachers and had a student/teacher ratio of 19.1 (NCES, 2010). The high school had been implementing School-Wide Positive Behavioral Interventions and Support (SWPBIS) for the previous four years. They had a 2010 overall score of 88% on the School-Wide Evaluation Tool (SET; Sugai, Lewis-Palmer, Todd, & Horner, 2001) and 84% on the Benchmarks of Quality (BoQ; Kincaid, Childs, & George, 2005).

The high school employed a modified block schedule in which four class periods were offered Monday through Thursday with all eight class periods scheduled on Fridays. Students attended four class periods on "A" days and four alternate class periods on "B" days. Some classes occurred only on "A" or "B" days, while others occurred every day. Class periods ranged in length from 80 to 85 minutes on "A" and "B" days and lasted 40 minutes on Fridays.

Prior to commencement of the study a proposal was submitted to the high school's district for approval. The proposal was accepted after formal review by the University of Oregon Internal Review Board.

Academic strategies. Participants were selected from a pool of students enrolled in the school's AS support classes. AS is a secondary support (Walker et al., 1996) modeled after the HS-BEP (Swain-Bradway & Horner, 2010). AS was designed to teach students the following skills: 1) planner usage, 2) notebook organization, 3) test taking/study skills, 4) goal setting, 5) development and use of a graduation plan, 6) use of school based technology, 7) tracking assignment completion, and 8) recruiting adult feedback (Swain-Bradway, 2009). Table 2 shows the criteria for entry into AS. To be enrolled a student must either: a) volunteer, b) be nominated by a teacher, or c) be identified by a school's Intensive Positive Behavior Interventions and Support (IPBIS) team after review of student-level academic and behavioral data (e.g. grades, number and type of office discipline referrals). Teachers nominate students by submitting a brief form documenting academic (e.g. missing assignments, lack of organizational skills) or behavioral (e.g. persistent minor problem behaviors, persistent absenteeism) concerns to the IPBIS team. The team then makes official enrollment decisions based upon a student meeting the established criteria.

Table 1

Eligibility Criteria for Enrollment in Academic Strategies

Category	Criteria
Attendance issues	• Four to six school excused absences per month • Skipping 1-2 classes per week
Problem behavior	• Talking during instruction • Text messaging during instruction • Sleeping during class • Failure to orient to teacher or activity • Failure to complete assigned work
Structure	• IPBS team perception that student would benefit from more overt class structure and teacher facilitated time management
Organizational skills	• Notebook / backpack are disorganized. • Student often misplaces or can't find assignments
Academic placement	• Student currently placed at appropriate instructional level for academic courses
Course failure	• Student failing at least one required class, due to lack of, or poor quality completion of class assignments (class work, homework, projects, tests) as evidenced by monthly progress reports.
Adult connection	• School student support team perception that student still has the ability to connect on an inter-personal basis with adults in the school
Does not engage in any "crisis" behaviors	• Suspected substance abuse • Suicidal comments • High rates of absences from individual classes or entire school day • Physically or verbally aggressive behaviors: hitting, kicking, pushing peers or staff, inappropriate sexual behaviors, etc.

Student selection. To participate in the study students had to: 1) be enrolled in AS, 2) complete the consent process, 3) be recommended by the teacher, and 4) demonstrate low levels of at least two Student-Guided Supports (SGS) behaviors in a core academic class. Prior to the study the lead researcher met with two of the school's AS teachers and asked them to provide information to their students about study participation. The AS teachers provided students with written information detailing participation requirements. Names of interested students were collected and returned to the lead researcher. The researcher then met with each of the prospective participants to explain more details of the study and to answer questions. Interested students were given assent and consent forms to be signed by themselves and their parents. The pool of students that completed the consent process was reduced based upon AS teacher recommendations. The teachers recommended students based upon their perception of student attendance and willingness to engage in the SGS instruction. Students that missed one or more days per school week or typically engaged in problem behaviors (e.g. talking out, leaving instructional area) during AS instruction were removed from eligibility. The final step of the selection process was based upon direct observation in the core academic classrooms. Each potential participant was observed on a minimum of two occasions for a total duration of 40-60 minutes. The five students that displayed three or fewer SGS behaviors during each observation were retained as the study sample.

Students. Table 2 shows descriptive information for each student participant. Participants were five male ninth grade high school students.

Table 2

Study Participants

Name	Race/Ethnicity	Target Classes			Disability
Aaron (1)	White/non-Hispanic	World History	English Literature		ND
Bobby (1)	Hispanic	World History	English Literature		Autism
Carl (2)	White/non-Hispanic	World History			Asperger's
David (2)	White/non-Hispanic	World History	English Literature	Health	SLD: Reading
Elvin (3)	White/non-Hispanic	Algebra I			ND

Note. ND = No Diagnosis. SLD = Specific Learning Disability. ( ) = Cohort.

Aaron was a White, non-Hispanic, 15 year-old, ninth grade student with no disability diagnosis. He was enrolled in Academic Strategies (AS) because of concerns over his academic performance in middle school. Aaron was observed in his World History (period 3A) and English Literature (period 3B) classes.

Bobby was a Hispanic, 14 year-old, ninth grade student with a diagnosis of Autism. He was enrolled in AS as a support provided under the terms of his Individualized Education Plan (IEP). He was enrolled in general education courses with an accommodation for additional time to complete assignments and tests. Bobby was observed in his World History (period 2B) and English Literature (period 2A) classes.

Carl was a White, non-Hispanic, 15 year-old, ninth grade student with a diagnosis of Asperger's Syndrome. He was enrolled in general education classes with AS added to

his schedule as an additional support as part of his IEP. Carl was observed in his World History class (period 2A).

David was a White, non-Hispanic, 15 year-old, ninth grade student with a diagnosis of a Specific Learning Disability in Reading. He was enrolled in general education classes with an IEP accommodation of additional time to complete assignments and tests. David was also enrolled in a reading support class and AS as a condition of his IEP. He was observed initially in his Health class (period 3), but observations later shifted to his World History (period 3A) and English Literature (period 3B) classes.

Elvin was a White, non-Hispanic, 15 year-old, ninth grade student with no disability diagnosis. He was enrolled in AS because of parental concerns over a preexisting medical condition which occasionally caused him to miss school days. Elvin was observed in his Algebra I class (period 3).

Teacher selection. Teacher participants were four permanent regular education teachers employed by the high school and one student-teacher from a local university. The participants taught courses in the following subjects: a) English Literature, b) World History, c) Health and d) Algebra. The permanent teachers of each student participant were contacted following student completion of the consent process. Each teacher received an electronic message indicating that one or more of their students had agreed to participate in a research study. The message also included a request for, and the requirements of, their participation (i.e. weekly completion of an online survey). The school's principal was also contacted and asked to forward a similar electronic message to these same teachers. The four permanent teachers represented those that agreed to participate and completed the consent process. The student teacher began co-teaching the

World History course approximately 4 weeks after initial data collection. As the result of a schedule change for David that occurred approximately 5 weeks after initial data collection one permanent teacher ceased participation in the study prior to its conclusion.

Independent Variable

Student training. The Student-Guided Support (SGS) intervention was comprised of five 30-minute lessons, each targeting a different behavior. The behaviors were selected because they were hypothesized to prompt and reinforce a set of supportive teacher behaviors. Target teacher behaviors were selected after a review of current literature on teacher classroom behaviors that have been linked to student academic and social success. The SGS curriculum was designed to teach/increase student use of the following five behaviors: 1) teacher greeting (e.g. student initiation of, or response to a teacher welcome), 2) asking an engaging question (e.g. question designed recruit and sustain teacher attention), 3) request for teacher support (e.g. oral request of individualized teacher help), 4) acknowledgement of teacher support (e.g. student initiated positive comment delivered contingently to teacher upon receipt of individualized support), and 5) request for teacher feedback (e.g. oral request for teacher evaluation of students' classroom performance. Increased use of the SGS target behaviors was hypothesized to increase the amount of in class support received by prompting and reinforcing supportive teacher behaviors.

Each lesson followed the following format: a) Introduction of skill, b) Rationale for using skill, c) Guided Practice, and d) Assessment. Assessment of student acquisition of target skills was both written and verbal (see appendix F). Students practiced the target skills with the primary researcher during the lesson and completed a written

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assessment at the end of the lesson. Students were required to verbally demonstrate the target behavior for a minimum of three consecutive trials before they could continue to the written assessment. The written assessment consisted of worksheets in which students were required to indicate the rationale behind using the target behaviors and provided positive and negative examples of the target behaviors. Students were required to independently complete all portions of the worksheets with 100% accuracy prior to completion of the lessons. Lessons 2-5 also included a review of prior lessons lasting between 5-10 minutes. As part of each lesson students were required to: a) state the target behavior and the rationale for its use, b) successfully demonstrate the behavior on at least three occasions, and c) review and/or complete a worksheet detailing the target behavior. Completion of the worksheets required students to independently provide examples and non-examples of the SGS behaviors and provide a written rationale for its use. The one exception was worksheet 3 which described how to ask for help appropriately; students were instructed to keep this worksheet in their target class folder for the duration of the study. All students were able to independently complete the worksheets following instruction.

Three cohorts (i.e. two in cohort one, two in cohort two, and one in cohort three) of students completed the SGS curriculum. Members of each cohort completed the SGS lessons together. Lessons were taught over a period of four to five consecutive school days. Students in cohorts one and three completed the lessons in four days while the lessons for cohort two were scheduled for five. One student, David, was absent on the first day of instruction and therefore completed two lessons on the second day. Lessons were taught during each student's regularly scheduled AS class. Students from cohorts

one and two were enrolled in the same period of AS. The class format for this period of

AS consisted of a brief skill lesson (i.e. 10-15 minutes) followed by supported work

completion time for the remainder of the period. SGS lessons lasted approximately 25-35

minutes and were taught at the end of each class period. The end of the period was

targeted to allow students time to complete their academic assignments, as an agreement

was made that coursework completion would take precedence over SGS lessons. The AS

period in which Elvin was enrolled was structured to begin with supported homework

completion time, which lasted approximately 45-60 minutes followed by the skill lesson.

The SGS lessons in this class were taught at the beginning of class as Elvin did not have

other coursework to complete during the four days of instruction.

Teacher orientation. An electronic message was sent to each student's

participating teachers at the commencement of the instructional phase. Teachers were

not instructed on how to respond to the SGS behaviors however they were informed that

students were taught to expect certain teacher responses when they demonstrated the

behaviors. These responses included: a) reply to greeting, b) reply to questions, c)

individualized help from the teacher, d) increased likelihood of individual help in the

future, and e) a brief report of student's classroom performance that included positive

comments.

Student follow-up. Completion of the SGS instruction phase was followed by a

series of weekly feedback sessions during intervention. Sessions lasted 10 to 15 minutes

and were conducted in each student's regularly scheduled AS class. Feedback was given

either individually or in small groups dependent upon student availability. The purposes

of these sessions were to: a) review student and teacher reports of student behavior, b)

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allow the lead researcher to provided performance feedback to students, c) discuss

student experiences in demonstrating the SGS behaviors, and d) allow the lead researcher

to re-teach SGS behaviors using scenarios drawn from student comments.

Dependent Variables

Direct observation, student report, and teacher report were the primary methods of

data collection.

Direct observation of SGS behaviors. Direct observation data of the SGS

behaviors were recorded using partial-interval recording, event recording, and a single

trial (per class period) dichotomous scale (i.e. occurrence/non-occurrence). Kennedy

(2005) described partial interval recording as an approach in which a specified

observation period is partitioned into an equal number of intervals. If the target stimulus

or response occurs at any point during a given interval then that interval is scored as an

occurrence. If it does not, then the interval is scored as a non-occurrence. For event

recording the frequency in which target behaviors were observed was recorded for each

observation session. The single trial variables (i.e. greeting, recruiting feedback) the

behavior was scored as an occurrence if it was observed during the observation period.

The SGS behaviors were designed to occur throughout an entire class period. As

a result of the difficulties in observing both the beginning and end of an 85-minute class

period during the same observation there were unequal opportunities to observe each

behavior. To address this issue direct observation data for each of the five behaviors were

graphed individually. The greeting, engaging question, request for support, and request

for feedback behaviors were graphed in such a way as to show whether or not they were

observed at least once during the observation session, resulting in a score of either 0 (did

not occur) or 1 (occurred at least once) for each observation. As a result of the format of this presentation, overlap of data between phases was not used to evaluate the presence of within-subject treatment effects for these variables. The conditional probability of each student demonstrating the acknowledgement of support behavior given the receipt of teacher support was graphed for the acknowledgement behavior. This resulted in scores ranging from 0% to 100%.

Greeting. Defined as an appropriate student-initiated welcome or response to teacher initiated welcome within 1-minue of student's arrival to the classroom (welcome may have occurred outside the classroom door). This behavior was defined in this way to prevent visual analysis of the data from penalizing students (i.e. indicating a non-occurrence) during observations in which their teacher initiated a greeting before they had an opportunity to greet the teacher. This variable was scored as a single trial using a dichotomous scale.

Engaging question. Defined as a student-initiated contact with the teacher in which the student: a) verbally associated current instruction with prior instruction from the same course (e.g. Is this conflict similar to the one that occurred prior to World War I?), b) verbally associated current instruction with prior instruction from a different course (e.g. Is it possible to use the equation for the surface area of a triangle to estimate how much paint I will need for this project?), c) verbally associated current instruction with an event or experience from the target student's personal life (e.g. Is this similar to what I do when I follow a recipe?), or d) request that the teacher make an association between current instruction and an event or experience from the target student's personal

life (e.g. How would I use this in a job interview?). This variable was recorded using partial interval recording.

Request support. Defined as a student initiated contact with the teacher in which assistance with an activity or assignment was requested. Contact may have been initiated verbally or via gesture (e.g. hand raise) and was recorded using partial interval recording.

Acknowledge support. Contingent response to teacher support in which a target student verbally responds to teacher assistance within 30 seconds of the cessation of the support (e.g. "Thanks", "I appreciate your help"). Conditional probabilities of student acknowledgement given teacher support were calculated using the following formula: instances of support followed by student acknowledgement/total instances of support*100%. For the purpose of calculating conditional probabilities of acknowledging support, consecutive intervals of teacher support were treated as a single instance, with a new instance being scored after a minimum of 3 consecutive intervals passed without observation of individualized support.

Request feedback. Defined as a student-initiated request directed toward the teacher, in which the target student solicits an assessment of his/ her performance during the immediately preceding class period. Recruitment of feedback should occur within 5 minutes of the scheduled end time of the period. A dichotomous (i.e. occurrence/non-occurrence) scale will be used to record this variable.

Direct observation of teacher support behaviors. Data were collected on teacher support (TS) behaviors using the same methods as the student behaviors. Aggregation of these behaviors resulted in a variable with a range of 0-4 for each class period.

Greeting. Defined as a teacher initiated welcome of a target student within 1-minute of student's arrival to class (greeting may occurred outside of classroom door) or a response to a student-initiated welcome within 30-seconds of its completion. Class-wide greetings did not qualify. This variable was scored as a single trial using a dichotomous scale. Conditional probabilities were also calculated for teacher greetings, given a student initiated greeting using the following formula: Observations with occurrence/Observation opportunities * 100%.

Advanced notice. Defined as any verbal or written accounting of coming assignments or activities by the teacher directed at the target student. To be considered an occurrence, the advanced organizer must have been in addition to information provided to the entire class. This variable was scored using event recording.

Individualized support. Defined as answering student questions, providing individualized instruction, assisting with assignment and activities, or engaging in a one on one conversation with the target student in which academics or behavior was the primary topic. This variable was recorded using partial interval recording. Additionally, conditional probabilities of teacher support given a student request for support were also calculated. In the calculation of conditional probabilities consecutive intervals of teacher support were treated as a single occurrence, with a new occurrence being scored after a minimum of 3 consecutive intervals in which teacher support did not occur. For the conditional probability of teacher support given a student request for support to be calculated, an occurrence of teacher support must have either: a) occurred within 60 seconds of student request or 2) the teacher must have verbally acknowledged the student request within 60 seconds and have provided support within 5 minutes (30 intervals) of

initial request. The conditional probability of this behavior was calculated using the following formula: Observations with occurrence/Total observations in phase*100%.

Teacher feedback. Defined as oral comments from the teacher to the target student in which the student's classroom behavior was evaluated. This variable was scored as a single trial using a dichotomous scale. To be scored as an occurrence, feedback had to occur shortly before (i.e. within ten minutes) or after (i.e. within five minutes) the end of the class period. Conditional probabilities were also calculated of teacher feedback given student request for feedback using the following formula: Observations with occurrence/Observation opportunities * 100%.

Direct observation of classroom climate. The following variables were measured as indicators of classroom climate, in particular the quantity and quality of teacher-student interactions.

Positive academic attention. Defined as a verbal response to student academic behavior or performance in which the teacher specified the positive student action and indicated her approval (e.g. "excellent job on this project"). This variable was recorded using event recording.

Negative academic attention. Defined as an academic correction or criticism by the teacher directed toward the target student. An academic correction was defined as a teacher statement following a target student's verbal or written academic response, in which the teacher indicated the response was incorrect. Teacher correction was recorded for both verbal (e.g. saying "that is incorrect") or written (correcting a response on a white board). Criticism was defined as a teacher statement in which the target student's

academic performance or effort was said to be insufficient (e.g. "You haven't turned in a single assignment this week"). This variable was recorded using event recording.

Positive social attention. Defined as a verbal response to student social behavior in which the teacher identified the behavior and indicated her approval (e.g. Thank you for throwing your trash in the wastebasket). The key feature that distinguished this variable from positive academic attention was that the behavior targeted by the teacher could not regard assignment completion, participation in academic activities (i.e. lectures, experiments, independent work), or performance on assessments. The behaviors that were included concerned student-peer and student-teacher interactions, adherence to classroom rules, and other student non-academic (based upon the preceding description) behaviors. This variable was measured using event recording.

Negative social attention. Defined as a verbal response to student social behavior in which the teacher identifies the behavior and requests that the student refrains from engaging in the behavior and/or provides a suggested replacement behavior. This variable was measured using event recording.

Direct observation of student academic engagement. Academic engagement was defined as follows: a) orienting toward appropriate stimuli (e.g. white board, projector screen, teacher, etc.), b) engaged physically or verbally with appropriate materials/objects/tasks, c) reading or writing assigned task during independent work, d) contributing to assigned cooperative activities by orienting towards activity related materials and/or peer(s) in the group, or e) engaged in appropriate activities approved by the teacher if independent work is completed before the allotted time. In order for an

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interval to be scored as an occurrence the student must have been academically engaged for a minimum of 8 out of 10 seconds.

       Student and teacher perception. Student and teacher report data were collected to supplement direct observation data. Report data were for entire class periods as opposed to the 20-minute (plus beginning and end of period data) direct observations.

       Student survey. A researcher prepared survey (see Appendix D) consisting of 7 questions in which the students rated their classroom performance and use of the SGS behaviors. The first question required students to evaluate their classroom performance. Students were asked to rate their classroom performance on a 1-5 scale with higher ratings indicating better performance. The second question asked the students about the level of support they received from the teacher. Teacher support was rated on a 1-5 scale, again with higher scores indicating a greater frequency of individualized support. Responses to these rating questions were averaged for each student in baseline and post-SGS instruction phases. The subsequent questions included yes/no response options and asked students if they: a) greeted the teacher, b) asked an appropriate question, c) asked for help, d) thanked the teacher for any help received, and e) asked how they did in class. These yes/no response questions were aggregated producing a single variable with a range of 0-5 for each class period. Paper copies of the survey were distributed to students each week commencing at the start of baseline data collection. Students were instructed to complete the survey twice per week based upon their behavior in the target classroom. The survey served two purposes: 1) to provide information on student behavior that occurred outside the 20-minute direct observation sessions; this was a necessity as target classes ranged in duration from 45 to approximately 85 minutes depending upon the

school schedule, and 2) to aide students in their self-monitoring and self-evaluation of their classroom behavior during the post-SGS instruction phase.

Teacher survey. A researcher designed survey (see Appendix E) consisting of 7 questions in which the teachers rated the classroom performance as well as the level of support they provided to the target students. The first question asked teachers to rate the level of support provided to the target students on a 1-5 scale with higher scores indicating greater support. The second question asked teachers to rate how academically engaged the target students were in class on a 1-5 scale, with higher numbers indicating greater engagement. Responses to these rating questions were averaged for each student in baseline and post-instruction phases. The remaining questions included yes/no response options and asked teachers if the student: a) greeted them, b) appropriately requested support, c) acknowledged teacher support, and d) asked an appropriate question. These yes/no response questions were aggregated producing a single variable with a range of 0-5 for each class period. The survey was made available electronically for teachers to complete. An electronic mail message was sent to each teacher that contained a web page link to the survey. Teachers completed the survey one to two times per week for each of their target students.

Direct Observation Procedures. Direct observations were conducted using a 20-minute data collection sheet. Observations were 20-minutes in length and partitioned into 10-sec intervals. Data collectors used an interval timing application that produced a chime or vibration at the end of each interval. Headphones were worn by the data collectors to prevent the chimes from being audible to the students in the classrooms. Observations of the participants occurred one to four times per week depending upon

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student schedule. Student participants Aaron, Bobby, and David were observed in multiple classes over the course of the study as a result of course schedule changes and implementation of an idiosyncratic class schedule that did not follow the school-wide schedule. Each of these students was enrolled in English Literature and World History courses that were taught by cooperating teachers. Students typically alternated between these classes each day, but for longer projects the students would attend the same class over several consecutive class periods. To avoid large temporal gaps in data collection the students were observed in both classes with three (i.e. two permanent and one student teacher) teacher participants.

Data collectors were graduate students in the Special Education or School Psychology programs at the University of Oregon. Data collectors were trained in use of the data collection protocol via verbal instruction and in-vivo. Data collectors had to reach a minimum threshold of 85% agreement with the researcher on all variables for a minimum of one observation session prior to collecting to participant data. When Inter-observer agreement (IOA) fell below the 85% threshold, the researcher and data collector observed target students together and discussed the rationale behind each other's scoring until consensus was met. The researcher and data collector were then required to exceed 85% agreement over a 10-minute observation session before the data collector was allowed to resume data collection.

IOA was assessed for approximately 32% of all observations across phases. Table 3 shows IOA calculations for each direct observation variable measured via partial-interval or single trial data recording. IOA was not calculated for the following variables because they were not observed during IOA sessions: a) asking an engaging question, b)

advanced notice, c) negative academic comment, and d) positive social comment. IOA was evaluated using occurrence (only) agreement. Occurrence agreement IOA for academic engagement was 93% with a range of 48% to 98% agreement. Cohen's Kappa statistic for academic engagement was 0.73 which exceeded the minimal standard of 0.60 recommended by Horner and colleagues (2005). Total agreement and Kappa were not calculated for many of the variables as the high proportion of intervals with non-occurrence of behaviors would have inflated these measures.

Table 3

Inter-observer Agreement for Observed Measures

Variable	Total Agreement	Occurrence Agreement	Cohen's Kappa
Academic engagement	87%	93%	0.73
Student greeting		100%	
Request for support		82%	
Acknowledge support		89%	
Student feedback		100%	
Teacher greeting		100%	
Teacher support		97%	
Teacher feedback		100%	
Positive academic comment		80%	
Negative social comment		100%	

Grades, Social Validity, and Feedback

Additional data were collected on student grades, student and teacher perceptions of the social validity of changes in student responding, and the difficulty and helpfulness of each SGS behavior.

Grades. Student letter grades were taken from the school's online grading system. Grades were recorded at the end of each student's baseline phase and again at the completion of the study. The school calculated grades using a standard A, B, C, D, F scale with each successive grade level indicating a lower teacher assessment of student classroom performance. Some grades also used plus (+) and minus (-) distinctions to further distinguish student performance within each grade level with plusses indicative of higher assessed performance.

Teacher perception survey. In an effort to measure the social validity of changes in student behavior teachers completed an exit survey at the completion of the study. The remaining permanent teachers as well as the student-teacher each completed the survey electronically. The survey asked the teachers to evaluate the goals of the SGS curriculum as well as any perceived changes in the target students' classroom performance (see Appendix F).

Student perception survey. To assess student perception of the social validity of the SGS curriculum, students completed a five item survey at the completion of the study. The survey asked if performing the behaviors led to increased help from their teachers (see Appendix G).

Student feedback. The student perception surveys also asked students to rank the difficulty and helpfulness of each SGS behavior.

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Research Design

Research questions one through three were addressed using a concurrent multiple-baseline across participants design. Kennedy (2005) described a multiple baseline design as one in which "the independent variable is sequentially administered across different tiers or baselines" (p. 151). The five student participants in this study were sequenced by cohort into three tiers. This design meets the What Works Clearinghouse standard for establishment of experimental control by allowing for three or more (i.e. five) demonstrations of within-subject effect at a minimum of three points in time (Kratochwill et al., 2010). Data were not collected during the SGS instruction phase, therefore within-subject effects were evaluated via comparison between baseline and post-instruction phases. Kratochwill and colleagues identified six features to examining within- and between-phase data patterns: 1) level (mean), 2) trend (slope), 3) variability, 4) immediacy of effect, 5) overlap, and 6) consistency of data patterns across similar phases. These features were used in the visual analysis of participant data.

Two phase changes occurred for each student. The initial phase change from baseline to SGS instruction occurred after students had displayed stable levels of at least two of the SGS behaviors. The second phase change from SGS instruction to post-instruction occurred after students had completed the five SGS lessons.

Procedures

Baseline. Students attended their regularly scheduled courses during baseline. The only deviation from their typical classroom routines was the completion of the twice per week surveys of classroom performance. During baseline direct observation data were collected between one to three times per week and survey data were collected one to

two times per week. Data were collected on student use of the SGS behaviors, teacher support behaviors, classroom climate, and student academic engagement. Students remained in baseline until a stable pattern of responding was observed for at least two SGS behaviors as determined by visual analysis (Horner et al., 2005).

SGS instruction. Direct observation data were not collected during the SGS instruction phase. Students completed each of the five SGS lessons before exiting the phase. Lessons were taught over the course of four to five consecutive schools days in the AS classes. Each lesson lasted between 25-35 minutes. Students were required to demonstrate the target behaviors a minimum of three times during each lesson.

Post-SGS instruction. Data were collected on student use of SGS behaviors, teacher support behaviors, classroom climate, and student academic engagement. Students were instructed to leave their surveys on their desks and complete them as they demonstrated the target SGS behaviors. Participants also met with the researcher one time per week in their regularly scheduled Academic Strategies classroom as part of the post-SGS instruction phase. Each session included three components: 1) review of teacher and student survey data from the previous week, 2) discussion of student challenges and successes in using the SGS target behaviors, and 3) setting of goals for student use of the SGS behaviors during the ensuing school week.

Analytic Plan

Direct observation and survey data were evaluated using visual analysis, comparisons of descriptive statistics and inferential statistics. Additional indirect measures, including social validity data were also evaluated.

Visual analysis. Visual analysis was used to evaluate evidence of an experimental effect in the direct observation and survey data. Comparisons of level, trend, variability, immediacy of effect as well as replication of effects across similar phases were used to interpret the data. The overlap of data points between phases variable was not used to evaluate functional relations in the SGS and TS direct observation data because of the restricted range of each individual behavior. The criteria of three demonstrations of within-subject effects at three points in time were used to evaluate evidence of a functional relation between the independent and dependent variables specified in each research question (Horner et al., 2005).

Descriptive analysis. Conditional probabilities of: a) teacher greeting given student greeting, b) teacher support given student request, c) teacher feedback given student request, and d) student acknowledgment of support given receipt of teacher support were compared within and across each participants' baseline and intervention phases. The percentages and frequencies of SGS and TS behaviors were also compared across phases for each participant. Kendall's Tau B correlations were calculated to assess the strength of the relationship between each of the SGS and TS behaviors. Additionally, Wilcoxon's Signed-Ranks Tests were conducted to compare mean levels of baseline and post-instruction behaviors for the following measures: a) teacher reports of student use of the SGS behaviors, b) average rates of individualized supports, c) teacher comments, d) teacher perceptions of support provided, and e) teacher perceptions of student engagement. Howell (2007) described the Wilcoxon's Signed-Ranks Test as a "nonparametric analogue of the *t* test for related samples" (p. 654). This test was used to compare means between phases because of concerns that tested data were not normally

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distributed. Pre- and post-instruction student letter grades were also compared. Finally,

social validity and student feedback were evaluated descriptively.

CHAPTER III

RESULTS

The purpose of this study was to investigate the following research questions: 1) Is there a functional relation between student participation in the Student-Guided Supports (SGS) curriculum and increases in student use of the SGS target behaviors, 2) Is there a functional relation between changes in student use of the SGS behaviors and changes in supportive teacher (TS) behaviors, and 3) Is there a functional relation between increases in supportive teacher behaviors and improvements in students' academic engagement? Research questions were evaluated using direct observation, student, and teacher report data.

SGS Behaviors

   Direct observation. Direct observation data were collected on student use of each SGS behavior. Multiple baseline graphs were created for each individual behavior. If a behavior was observed at least once during an observation period it was scored as an occurrence (1). If it was not observed it was scored as a non-occurrence (0). Only the observations in which students had the opportunity to acknowledge teacher support were graphed in Figure 5. Tables containing the frequency of student use of the SGS behaviors, the percentage of observations in which the behavior was observed, and in one case (Table 5) the conditional probability of the behavior occurring are presented to aid in interpretation of within-subject treatment effects.

   Greeting. Figure 2 and Table 4 present direct observation data of student use of the greeting behavior.
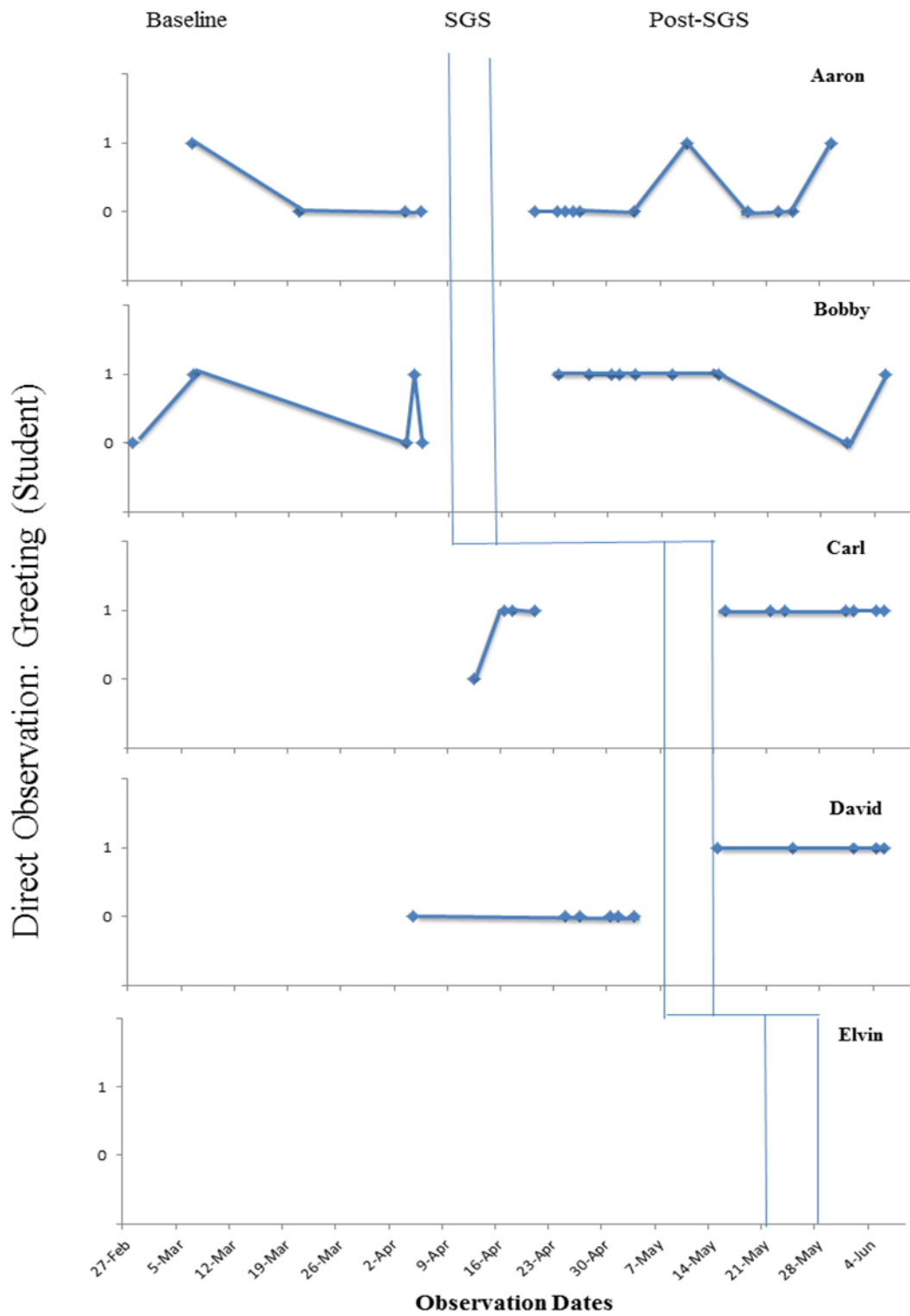
Figure 2. Observed student greeting behavior

Table 4

Frequencies and Percentages of Observed Student Greetings

	Phase	
	Baseline	Post-Instruction
Aaron	N = 4	N = 11
Student initiated (% of total)	1 (100%)	2 (100%)
Total (% of observations)	1 (25%)	2 (18%)
Bobby	N = 4	N = 9
Student initiated (% of total)	1 (50%)	7 (87%)
Total (% of observations)	2 (40%)	8 (89%)
Carl	N = 4	N = 7
Student initiated (% of total)	3 (100%)	7 (100%)
Total (% of observations)	3 (75%)	7 (100%)
David	N = 6	N = 5
Student initiated (% of total)	0 (NC)	4 (80%)
Total (% of observations)	0 (0%)	5 (100%)
Elvin	N = 0	N = 0
Student initiated (% of total)	NO	NO
Total (% of observations)	NO	NO

Note. NC = Not Calculated. NO = Not Observed. N = Number of opportunities to observe

Data collectors had the opportunity to observe the occurrence or non-occurrence of Aaron's greeting behavior on four occasions during baseline. He initiated a teacher greeting during the first observation (March 6). Aaron then displayed a stable pattern of not engaging in the greeting behavior over final three observations of the phase. Moving

into the post-SGS instruction phase, Aaron continued his pattern of not engaging in the greeting behavior over the first six observations. He did initiate greetings on May 10 and May 29. The results of the direct observation showed a small decrease in level (7 percentage points), with no change in trend or variability during the phase. There was no indication of an immediate treatment effect. Aaron's direct observation data do not support the determination of a within-subject treatment effect.

Data collectors had four opportunities to observe the occurrence or non-occurrence of Bobby's greeting behavior during baseline. He demonstrated the behavior on two occasions during the phase, initiating the greeting on March 6 and responding to a teacher greeting on April 4. A stable pattern of responding was not established before the transition to the SGS instruction phase. After the transition to the post-SGS instruction, Bobby demonstrated the behavior over seven consecutive observations, from April 23 to May 14. He did not demonstrate the behavior during the eighth observation on May 31. He demonstrated the behavior during the final observation on June 5. Bobby initiated seven of the eight occurrences of the greeting behavior observed during the phase. The results of the direct observation data showed evidence of a within-subject treatment effect. An increase in level (49 percentage points) and a decrease in variability were observed. There was also some evidence of an immediate treatment effect. There was not a clear change in trend.

Data were collected on Carl's use of the greeting behavior on four occasions during baseline. Carl initiated greetings over the final three observations of the phase. Moving to the post-instruction phase, Carl initiated teacher greetings during each of the seven occasions in which data collectors had the opportunity to observe. Results of the

direct observation data showed that Carl displayed a stable pattern of engaging in the greeting behavior prior to instruction. There was a small increase in level (25 percentage points) and a decrease in variability demonstrated during the post-SGS instruction. The similarity in data across phases did not support the determination of a within-subject treatment effect.

David displayed a stable pattern of not engaging in the greeting behavior over the six opportunities data collectors had to observe the occurrence or non-occurrence of the behavior. During the post-SGS instruction phase, he initiated greetings during four of the five observations. He replied to a teacher initiated greeting during the third observation on June 1. Results of the direct observation data showed evidence of a within-subject treatment effect. An increase in level (100 percentage points) and an immediate treatment effect were observed. The trend remained stable through both phases with no observed variability.

Direct observation data of Elvin's use of the greeting behavior were not collected throughout the study.

Direct observation data in Figure 2 did not meet the necessary criteria to demonstrate a functional relation between the SGS instruction and improved rates of the greeting behavior by students. Elvin's missing data prevented interpretation of a functional relation as there were only two available time points in which to observe a within-subject effect (cf. Kratochwill et al., 2010). Baseline levels were low and stable for Aaron and David, while Bobby initiated a greeting during one observation and responded to a teacher initiated greeting in a second observation. Carl demonstrated a stable pattern of engaging in the greeting behavior prior to instruction. Following SGS

instruction there were increases in the overall level of the greeting behavior for all students. The repeated demonstrations of the greeting behavior by Carl during baseline prevented compelling demonstration of a within-subject effect. The increase in level and decrease in variability during the post-SGS instruction phase suggested the demonstration of a within-subject effect for Bobby. Employing a modified set of visual analysis (overlap was not considered) suggested that results from Bobby and David offered demonstration of two within-subject effects at two different points in time.

   Engaging question. Figure 3 and Table 5 present direct observation data of student use of engaging questions.

Table 5

Frequencies and Percentages of Observed Student Use of Engaging Questions

	Phase	
	Baseline	Post-Instruction
Aaron	N = 6	N = 16
Total (% of observations)	0 (0%)	0 (0%)
Bobby	N = 7	N = 17
Total (% of observations)	0 (0%)	1 (6%)
Carl	N = 10	N = 10
Total (% of observations)	2 (20%)	1 (10%)
David	N = 13	N = 8
Total (% of observations)	0 (0%)	0 (0%)
Elvin	N = 22	N = 5
Total (% of observations)	0 (0%)	0 (0%)

Note. NC = Not Calculated. NO = Not Observed. N = Number of opportunities to observe
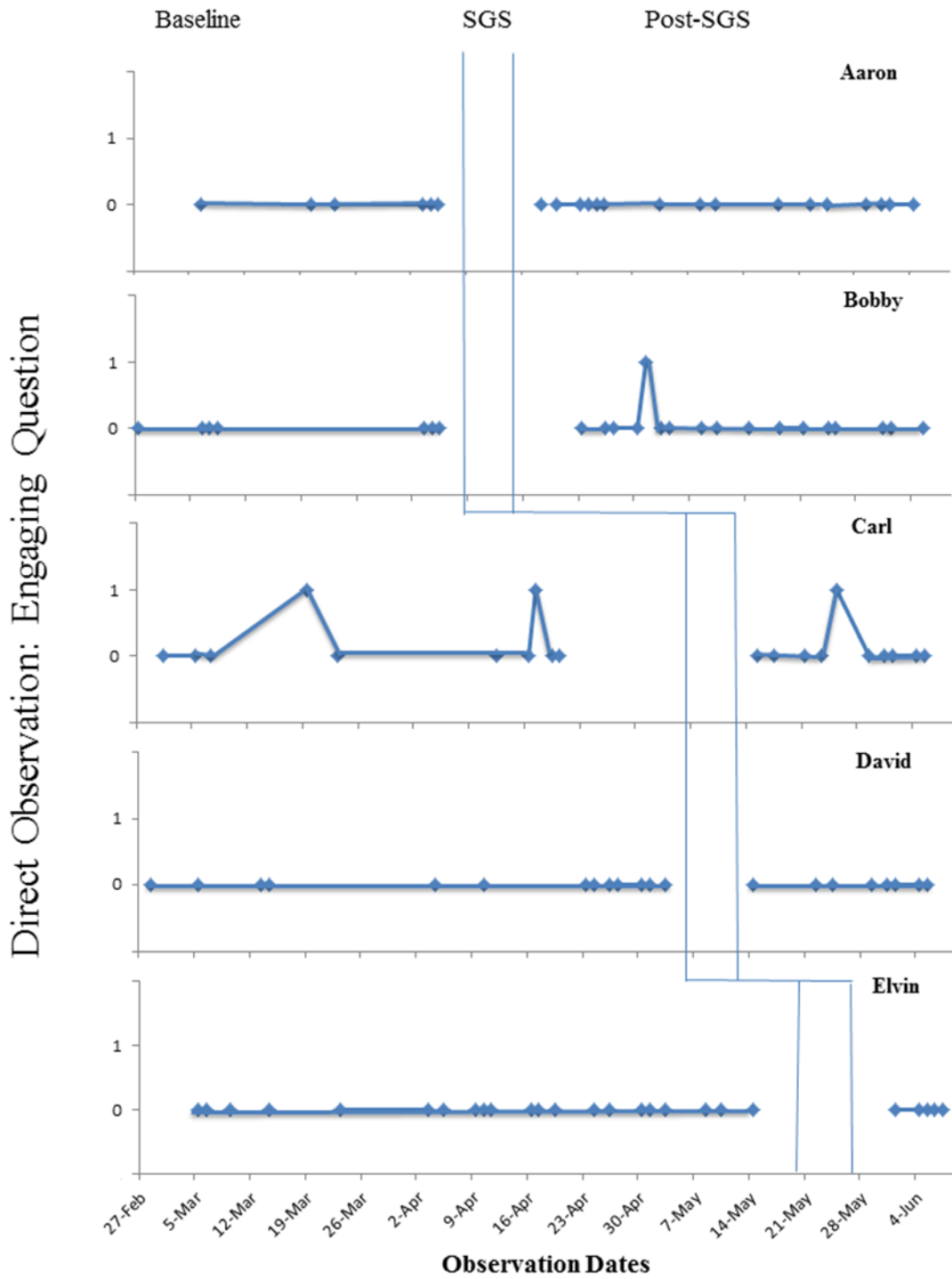
Figure 3. Observed student use of engaging question behavior

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There was no evidence of a within-subject treatment effect for any of the students' use of engaging questions. Aaron demonstrated no use of engaging questions during baseline or post-SGS instruction phases. Bobby was not observed asking an engaging question during baseline and asked one question during the post-instruction phase. Carl asked an engaging question on two occasions (20% of observations) during baseline and once (10% of observations) during the post-SGS instruction phase. David and Elvin were observed asking an engaging question during baseline or post-instruction phases.

Direct observation data in Figure 3 provide no evidence of a functional relation between SGS instruction and student use of engaging questions. Baseline levels remained at zero levels for four of the five participants. Carl also showed low levels of the behavior with demonstrations during 20% of observations in the phase. Following SGS instruction no changes in behavior were observed for Aaron, David, and Elvin. Bobby and Carl demonstrated the behavior on one occasion during the post-instruction phase. Employing a modified set of visual analysis variables suggested that no within-subject effects were observed across participants. The lack of within-subject effects showed that there was no evidence of a functional relation between SGS instruction and changes in student use of engaging questions.

Request for support. Figure 4 and Table 6 present direct observation data of student use of requests for support.

Carl demonstrated a variable pattern of requests for teacher support during baseline with the behavior observed four times over three observations during the phase. The behavior was observed in 30% of baseline observations with a slight upward trend.

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There was no indication of an immediate treatment effect in moving from instruction to the post-SGS instruction phase. Carl demonstrated requests twice over two observations during the phase. A slight decrease in level (20% of observations), trend, and variability were observed. A comparison of baseline and post-instruction data showed no evidence of a within-subject effect.

David demonstrated a variable pattern of requests for teacher support during baseline with the behavior observed seven times over five observations. The behavior was observed in 38% of the observations in the phase with a slight upward trend. David demonstrated the behavior during three of the final five observations in the phase. Moving into the post-instruction phase there was no evidence of an immediate treatment effect as David did not demonstrate a request during the initial observations of the phase. A small increase in level (12 percentage points), trend, and variability were shown in post-instruction data. The similarity between the patterns of behavior observed in the post-instruction phase and the final observations in baseline suggested that David's data did not show a within-subject effect.

Table 6

Frequencies and Percentages of Student Requests for Support

	Phase	
	Baseline	Post-Instruction
Aaron	N = 6	N = 16
Total (% of observations)	0 (0%)	6 (19%)
Bobby	N = 7	N = 17
Total (% of observations)	0 (0%)	2 (6%)
Carl	N = 10	N = 10
Total (% of observations)	4 (30%)	2 (20%)
David	N = 13	N = 8
Total (% of observations)	7 (38%)	8 (50%)
Elvin	N = 22	N = 5
Total (% of observations)	21 (32%)	5 (40%)

Note. NC = Not Calculated. NO = Not Observed. N = Number of opportunities to observe

Figure 4. Observed student requests for teacher support

Aaron demonstrated no requests for teacher support during baseline. He demonstrated six requests over the course of three observations during the post-SGS instruction phase. Post-instruction data showed a slight increase in level, trend, and variability, with no indication of an immediate treatment effect. These small changes suggested no within-subject effect.

Bobby demonstrated no requests for teacher support during baseline. He demonstrated two requests during one observation in the post-instruction phase. Post-SGS instruction data showed a very small increase in level (6 percentage points), and trend, as well as a small increase in variability. There was no indication of an immediate treatment effect. Bobby's data showed no evidence of a within-subject effect.

Elvin demonstrated a variable pattern of requests for teacher support during baseline with the behavior observed 21 times during seven observations. Requests were observed during 32% of the observations in the phase with a slight upward trend. Elvin demonstrated the behavior in three of the four observations during baseline. Post-instruction, Elvin demonstrated five requests during the first two observations of the phase. He then made zero requests in the subsequent observations. A small increase in level (8 percentage points), decrease in trend, and no change in variability were observed in the post-SGS instruction phase. The similarity between the final observations of baseline and the initial observations post-instruction showed no support for the presence of an immediate treatment effect and the similarity of all data across the phases indicate no evidence of a within subject effect.

Direct observation data in Figure 4 provide no support for a functional relation between SGS instruction and changes in student use of the request for support behavior.

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Aaron and Bobby demonstrated no behaviors during each observation in baseline. Carl,

David, and Elvin showed low, but variable levels of the behavior. Following instruction

there were modest increases in level observed for Aaron, Bobby, David, and Elvin. A

slight decrease was observed for Carl. An increase in variability was observed for Aaron

and Bobby. Variability remained high for Carl, David, and Elvin. There was no change

in trend for Bobby, Carl, or David and a small increase for Aaron. Elvin showed a

decreasing trend during post-instruction. The similarities between phases for each of the

participants precluded the determination of any within-subject effects. The lack of

within-subject effects showed no support for a functional relation between participation

in the SGS curriculum and student use of the request for support behavior.

Acknowledgement of support. Figure 5 and Table 7 present direct observation

data for student acknowledgement of teacher support.
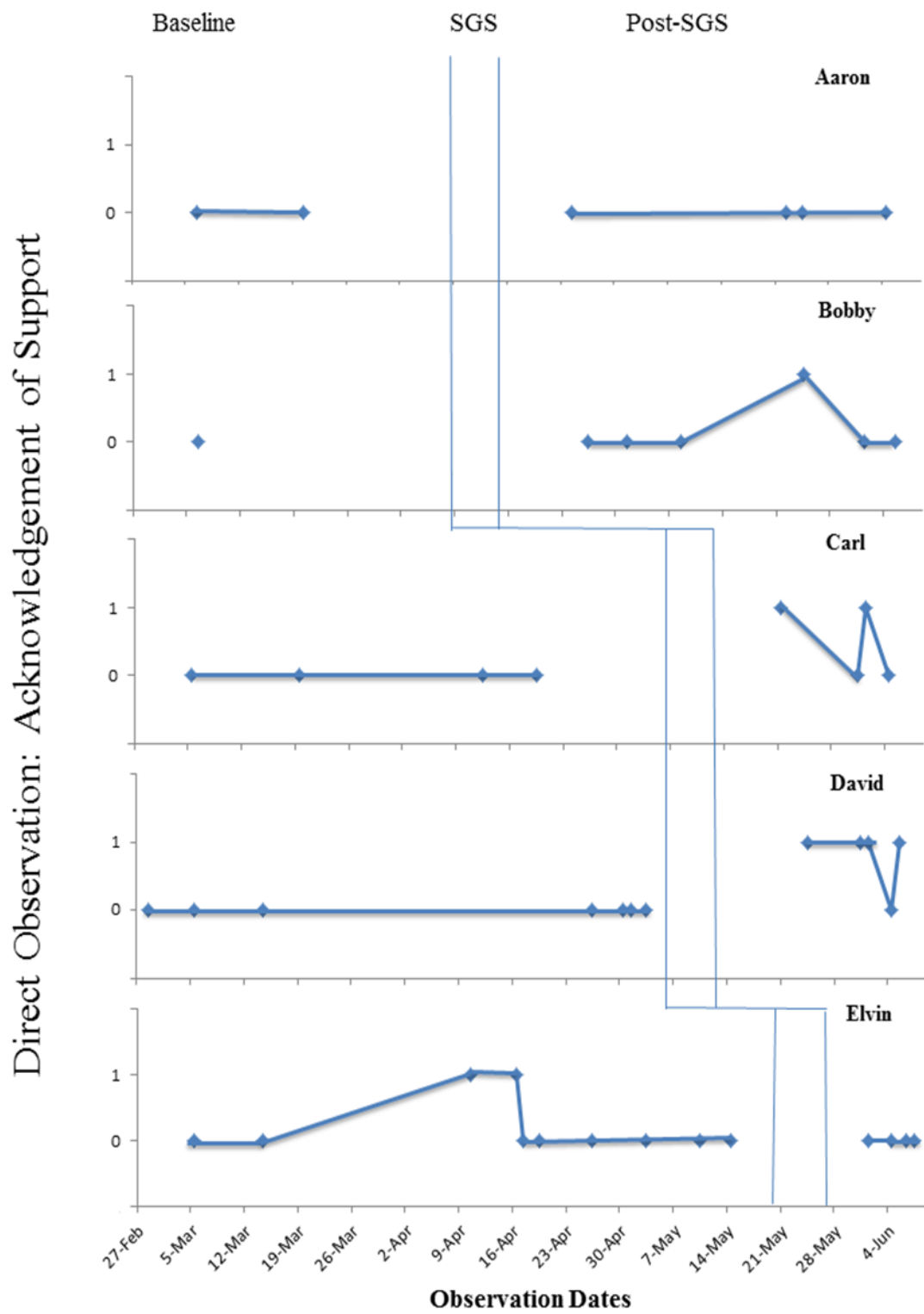
Figure 5. Observed student acknowledgement of teacher support

Table 7

Frequencies, Percentages, and Conditional Probabilities of Student Acknowledgement of Support

	Phase	
	Baseline	Post-Instruction
Aaron	N = 2	N = 4
Total (% of observations)	0 (0%)	0 (0%)
Conditional probability	0%	0%
Bobby	N = 1	N = 6
Total (% of observations)	0 (0%)	2 (17%)
Conditional probability	0%	17%
Carl	N = 4	N = 4
Total (% of observations)	0 (0%)	2 (50%)
Conditional probability	0%	38%
David	N = 7	N = 5
Total (% of observations)	0 (0%)	6 (67%)
Conditional probability	0%	54%
Elvin	N = 10	N = 4
Total (% of observations)	2 (20%)	0 (0%)
Conditional probability	20%	0%

Note. NC = Not Calculated. NO = Not Observed. N = Number of opportunities to observe

Aaron had opportunities to acknowledge teacher support during two observations in baseline and four observations during the post-SGS instruction phase. He was not observed demonstrating the behavior during any observations across the two phases.

There was a 0% conditional probability of Aaron acknowledging teacher support in baseline and post-instruction. Aaron's data showed no within-subject treatment effect.

Bobby did not acknowledge teacher support during his one opportunity in baseline. During post-instruction he acknowledged support two times during the May 24 observation. The single datum point during baseline prevents between phase comparisons of trend and variability. There was however a slight increase in level (17 percentage points) during the post-SGS instruction phase with no indication of an immediate treatment effect. The conditional probability that Bobby would acknowledge teacher support increased from 0% in baseline to 17% during the post-instruction phase. Data showed no within-subject treatment effect.

Carl had opportunities to acknowledge teacher support during four observations in baseline and four observations in the post-SGS instruction phase. He was not observed demonstrating the behavior during baseline. In post-instruction Carl acknowledged support once during the May 21 and June 1 observations. There was an increase in level (50 percentage points) during the post-instruction phase. However greater variability and a decreasing trend were observed during the phase. There was a 38 percentage point increase in the conditional probability of Carl acknowledging teacher support during the post-SGS instruction phase. Despite this increased probability his data lacked sufficient evidence of a within-subject treatment effect.

David had opportunities to acknowledge teacher support during seven observations during baseline and five opportunities during the post-SGS instruction phase. He was not observed demonstrating the behavior during baseline. In post-instruction David acknowledged support at total of six times over four observations. An

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80 percentage point increase in level was observed with a slightly decreasing trend and a slight increase in variability. David's behavior showed an immediate treatment effect and the conditional probability that he would acknowledge teacher support increased from 0% to 54%. His data showed evidence of a within-subject treatment effect.

Elvin had opportunities to acknowledge teacher support during ten observations in baseline and four observations during the post-SGS instruction phase. He demonstrated one behavior on April 10 and one behavior on April 16. For the phase he displayed a low (20% of observations) and relatively stable pattern of responding as he did not engage in the acknowledgement behavior during the final six observations of baseline. Elvin did not demonstrate the behavior during post-instruction. Elvin's data did not provide evidence off of a within-subject treatment effect.

Direct observation data in Figure 5 provide little support for a functional relation between SGS instruction and changes in student use of the acknowledgement behavior. In baseline, all five participants showed low levels of the target SGS behavior. Aaron, Bobby, Carl, and David demonstrated zero behaviors in the phase. Elvin acknowledged teacher support in two consecutive observations, but did not demonstrate the behavior in the final six observations of the phase. Following SGS instruction there was no change in Aaron's behavior. There was a slight increase in Bobby's behavior and a 50 percentage point increase for Carl. Although Carl demonstrated the behavior at a greater level during the post-instruction phase he failed to acknowledge teacher support in two of the four observations in which he had an opportunity, preventing a determination of a within-subject effect. David showed a large increase in level and conditional probability of acknowledgement. His data do indicate a within-subject effect. Elvin's data showed a

decrease in level of acknowledgement as he did not engage in the behavior during the phase. Employing a modified set of visual analysis suggests that only David's results showed at within-subject effect. This single demonstration was not sufficient to establish a functional relation between SGS instruction and student acknowledgement of teacher support.

Request for feedback. Figure 6 and Table 8 present direct observation data of student use of the request for feedback behavior.

Aaron did not demonstrate the request for feedback behavior during baseline. He continued to not demonstrate the behavior during the first four observations of the post-instruction phase. He did request teacher feedback in six of the seven subsequent observations, resulting in a 55 percentage point increase in level. Aaron's data also showed an increasing trend and greater variability during the phase. The two week delay between the end of instruction and the first demonstration of the request for feedback behavior discouraged the determination of a within-subject effect.

Bobby did not demonstrate the request for feedback behavior during baseline. He did not demonstrate the behavior during the initial observation of the post-SGS instruction phase. He did demonstrate the behavior in seven of the 11 subsequent observations resulting in a 54 percentage point increase in level. There was also slightly increasing trend and greater variability throughout the phase. Bobby did not demonstrate the request for feedback behavior in the final two observations of the phase. Despite this decreasing pattern toward the end of the post-instruction phase there appeared to be evidence of a within-subject treatment effect.
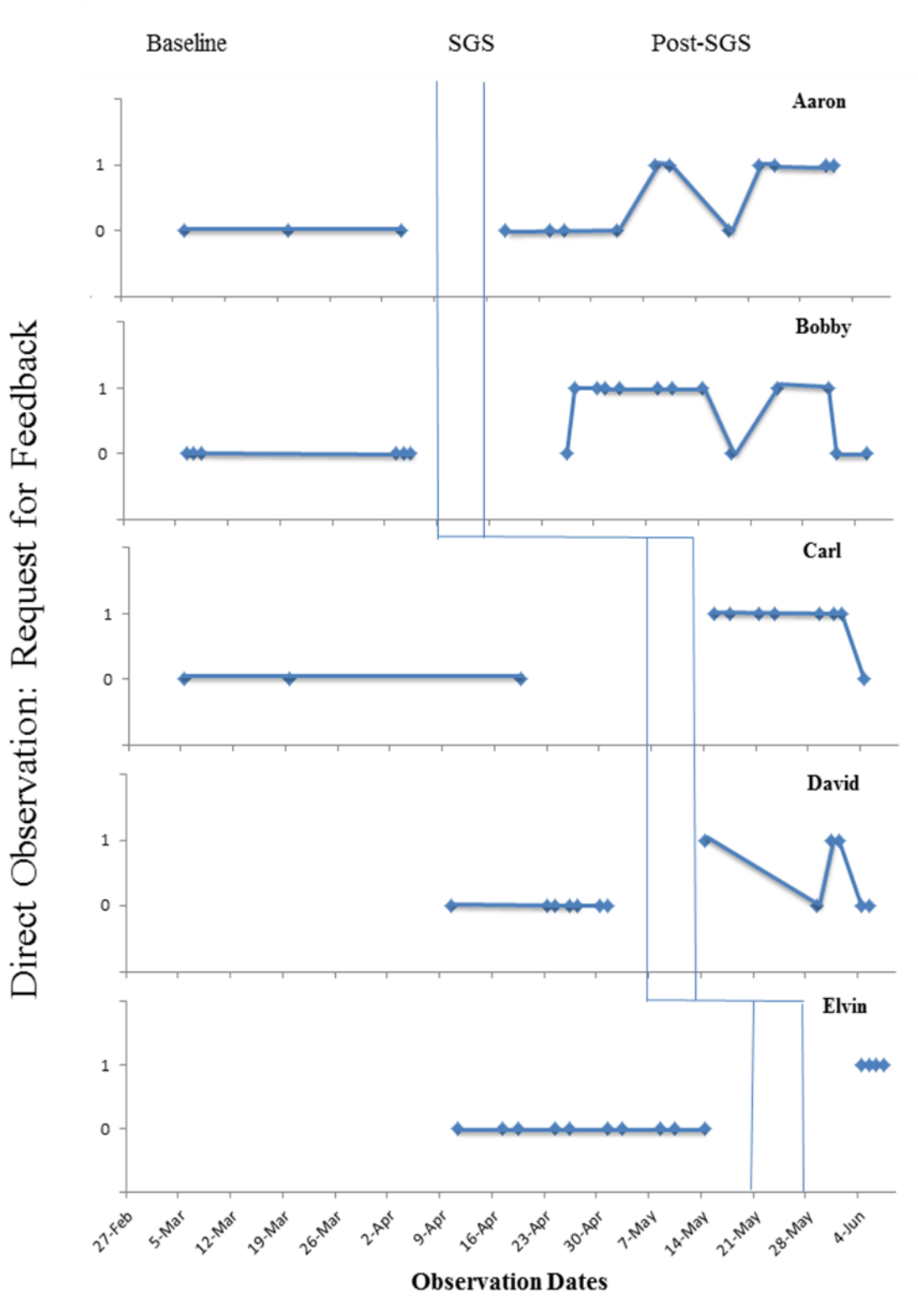
Figure 6. Observed student requests for teacher feedback

Table 8

Frequencies and Percentages of Observed Student Requests for Feedback

	Phase	
	Baseline	Post-Instruction
Aaron	N = 3	N = 11
Student initiated (% of total)	0 (NC)	6 (100%)
Total (% of observations)	0 (0%)	6 (55%)
Bobby	N = 6	N = 13
Student initiated (% of total)	0 (NC)	7 (100%)
Total (% of observations)	0 (0%)	7 (54%)
Carl	N = 3	N = 8
Student initiated (% of total)	0 (NC)	7 (100%)
Total (% of observations)	0 (0%)	7 (88%)
David	N = 7	N = 6
Student initiated (% of total)	0 (NC)	3 (100%)
Total (% of observations)	0 (0%)	3 (50%)
Elvin	N = 10	N = 4
Student initiated (% of total)	0 (NC)	4 (100%)
Total (% of observations)	0 (0%)	4 (100%)

Note. NC = Not Calculated. NO = Not Observed. N = Number of opportunities to observe

Carl did not demonstrate the request for feedback behavior during baseline. He demonstrated the behavior in the first seven observations of the post-SGS instruction phase resulting in an 88 percentage point increase in level during the phase. There was also a slight increase in variability and a slightly decreasing trend as Carl did not

demonstrate the behavior during the final observation on June 4. Despite this late

decrease, there was evidence of a within-subject treatment effect.

David did not demonstrate the request for feedback behavior during baseline. He

demonstrated the behavior during the first observation of the post-SGS instruction phase

(May 14). He then demonstrated the behavior in two of the five subsequent observations.

David's data showed a 50 percentage point increase in the level of the request for

feedback behavior with an increase in variability and a slightly decreasing trend. He

failed to demonstrate the behavior in three of the six observations in the phase, including

the final two observations. This high level of variability led to a cautious determination

of a within-subject treatment effect.

Elvin did not demonstrate the request for feedback behavior throughout baseline.

He demonstrated the behavior during the four observations of the post-SGS instruction

phase resulting in a 100 percentage point increase in level with no change in trend or

variability. Elvin's behavior showed clear evidence of a within-subject treatment effect.

Direct observation data in Figure 6 provide support for a functional relation

between SGS instruction and improved rates of student use of the request for feedback

behavior. Baseline levels were low and stable. Following SGS instruction there were

increases in the overall level of the request behavior for all students. The delay in

increased level for Aaron prevented compelling demonstration of a within-subject effect.

Employing a modified set of visual analysis variables suggested that results from Bobby,

Carl, David, and Elvin offered demonstration of four within-subject effects at three

different points in time.

Teacher and student reports. Figure 7 presents data collected from teacher and student surveys. Responses on student use of the SGS behaviors have been aggregated to allow for a more conventional use of visual analysis to determine a functional relation between SGS instructions and changes in student use of the SGS behaviors.

Teacher reports. Aaron's teachers provided one report of his use of the SGS behaviors during baseline. According to that report he engaged in zero SGS behaviors during class on April 3. He continued to demonstrate low levels of the SGS behaviors during the first four reports of the post-SGS instruction phase. His teacher reported use of the behaviors increased to two, four, five, and four behaviors on May 31, June 1, June 4, and June 5 respectively. This increase over the final four reports resulted in an increase in level with an increasing trend for the phase. The single report during baseline prevents comparison of variability and trend between phases. Fifty percent of the teacher reports during the post-SGS instruction phase overlapped with levels of behavior reported in baseline. The lack of an immediate treatment effect suggested that there was no within-subject treatment effect.

Bobby's teachers reported that he demonstrated two SGS behaviors during class on March 6 and April 5 and one behavior on April 6 during baseline. Teachers reported that he demonstrated zero behaviors during the six remaining class periods in the phase. Teachers reported that Bobby demonstrated low levels of the SGS behavior with some variability and a slightly increasing trend. Moving to the post-SGS instruction phase Bobby reportedly demonstrated four behaviors on April 17 followed by one behavior during the two subsequent class periods. Teacher reports showed that Bobby engaged in a higher level of SGS behaviors with greater variability and a slightly increasing trend.

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Approximately 75% of reports during the post-instruction phase overlapped levels reported during baseline. The high proportion of overlapping data suggested that there was no within-subject treatment effect.

Carl's teachers reported that he demonstrated a moderate level of SGS behaviors during baseline. They reported that he engaged in four behaviors during three of class periods. Carl's reported behavior showed variability with a slight upward trend throughout the phase. Teachers reported that Carl demonstrated slightly higher levels of the SGS behaviors during the post-SGS instruction phase with a slight upward trend and greater variability. There was no compelling evidence of an immediate treatment effect and approximately 56% of reports during the post-instruction phase overlapped levels reported during baseline. The moderate level of behavior reported in baseline prevents the determination of a within-subject treatment effect.

David's teachers reported low levels of the SGS behaviors with an increasing trend during baseline. They reported higher levels of the SGS behaviors during the post-SGS instruction phase with similar trend as reported in baseline. David's teachers also reported greater variability with no indication of an immediate treatment effect. Approximately 29% of reports during the post-instruction phase overlapped levels reported during baseline. The increasing trend observed in baseline prevented the determination of a within-subject effect for David.
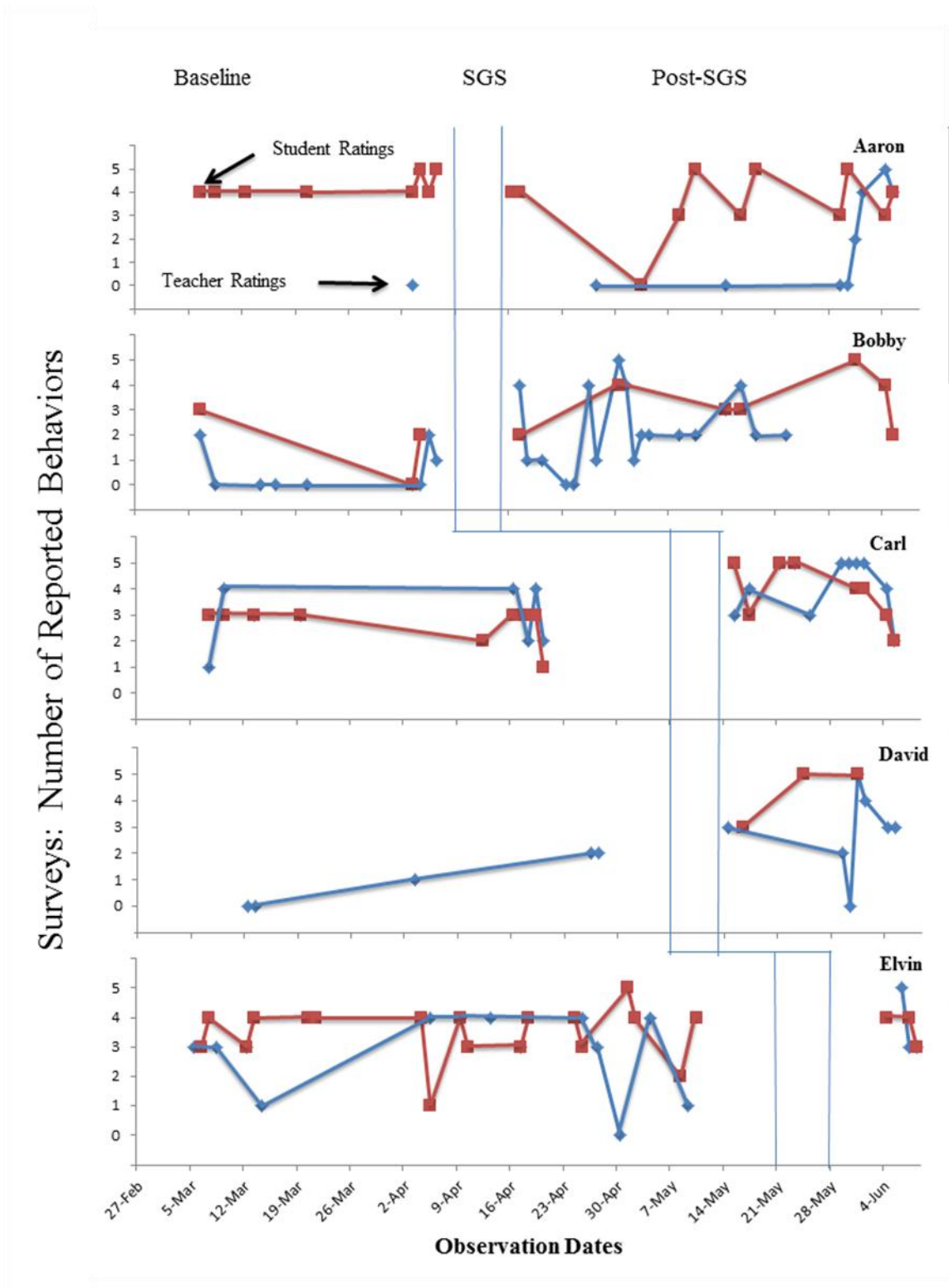
Figure 7. Aggregates of reported use of SGS behaviors

Elvin's teachers reported moderate use of the SGS behaviors in baseline with a high level of variability and a flat to slightly decreasing trend. His teachers reported similar levels of behavior with less variability and a decreasing trend during the post-SGS instruction phase. Approximately 67% of reports during the post-instruction phase overlapped levels reported during baseline. The high proportion of overlapping data and decreasing trend reported during post-SGS instruction indicated that a within-subject treatment effect was not evidenced.

Teacher report data in Figure 7 provide no support for a functional relation between SGS instruction and improved rates of SGS behaviors by students. Baseline levels were low for Aaron, Bobby, and David. They were moderate for Carl and Elvin. Bobby's data showed a slightly increasing trend at the end of the phase while David's data showed an increasing trend throughout baseline. Carl and Elvin's data showed a high level of variability. After SGS instruction Aaron, Bobby, Carl, and David showed increases in overall level of behavior. Elvin's level of behavior remained the same. The high overlap of data points between phases for Aaron, Bobby, Carl, and Elvin prevented the determination of within-subject effects. The increasing trend in baseline for David prevented this determination for his data, despite the lower proportion of overlapping data.

Table 9 shows comparisons between the average number of SGS behaviors reported by teachers in baseline and post-SGS instruction phases. A Wilcoxon's Signed-Ranks Test showed that teachers reported higher levels of student use of the SGS behaviors after SGS instruction ($Z = -2.02$, $p = 0.04$).

Table 9

Average Teacher Reported Use of SGS Behaviors

| | Phase | | | Signed Rank | | |
	Baseline	Post-Instruction	Change	(+)	(-)	Z
Aaron	0.00	1.88	1.88	5		2.02*
Bobby	0.56	2.22	1.66	3		
Carl	2.88	4.18	1.30	2		
David	1.00	2.86	1.86	4		
Elvin	2.85	3.67	0.82	1		

Note. $*p < 0.05$

Student reports. Aaron reported high and relatively stable use of SGS behaviors during baseline. During the post-instruction phase he reported a slightly lower level of behavior with greater variability and a slightly increasing trend. Approximately 55% of reports during the post-SGS instruction phase overlapped data reported during baseline. Aaron's self-report data showed no evidence of a within-subject treatment effect.

Bobby reported moderate to low use of the SGS behaviors during baseline with a slightly decreasing trend. After SGS instruction he reported higher levels of SGS behavior use with greater variability and a slightly increasing trend. Approximately 57% of reports during the post-SGS instruction phase overlapped data reported during baseline. The similarity in level between the last report in baseline and the first report during the post-SGS instruction phase as well as the high proportion of overlapping data prevent the determination of a within-subject treatment effect.

Carl reported moderate and relatively stable use of the SGS behaviors during baseline with a slightly decreasing trend. After SGS instruction he reported higher levels with greater variability and a decreasing trend. Approximately 38% of reports during the post-SGS instruction phase overlapped data reported during baseline. Although there was some evidence of an immediate treatment effect the moderate levels of SGS use in baseline and overlap of data between phases prevented the determination of a within-subject effect.

David did not report his use of the SGS behaviors during baseline. During the post-SGS instruction phase he reported a high level of use of the behaviors, with an increasing trend. The lack of baseline data prevents a comparison between phases.

Elvin reported moderate to high levels of SGS behavior use during baseline with a relatively stable pattern of responding. After SGS instruction he reported similar levels of behavior with a decreasing trend. One-hundred percent of the reports in the post-SGS instruction phase overlapped data reported in baseline. The similarity in level and high proportion of overlapping data suggested there was no evidence of a within-subject treatment effect.

Student report data in Figure 7 provide no support for a functional relation between SGS instruction and improved rates of SGS behaviors by students. Baseline levels were moderate to high for Aaron, Carl, and Elvin. Bobby and Carl reported lower levels, but with increasing trends toward the end of the phase. After SGS instruction Bobby and Carl reported increased use of the SGS behaviors. Elvin reported no change in level and Aaron reported a decrease in the use of SGS behaviors. Employing a full set

of visual analysis variables suggested that no within-subject treatment effects were observed and therefore a functional relation could not be present.

A Wilcoxon's Signed-Ranks Test was not conducted as a minimum of five ranks are required to have a possible p-value below 0.05. The lack of baseline data for David prevented the student report data from meeting this minimum requirement.

TS Behaviors

Direct observation. Direct observation data were collected on teacher demonstration of each TS behavior. Multiple baseline graphs were created for each individual behavior using the same methods used for the SGS behaviors. Tables containing correlations between observed SGS and TS behaviors, frequencies of teacher use of the TS behaviors, the percentage of observations in which the behavior was observed, and the conditional probability that the behaviors occurred following student use of SGS behaviors are presented to aid in interpretation of within-subject effects.

Greeting. Figure 8 and Table 10 present direct observation data of teacher use of greeting behaviors.
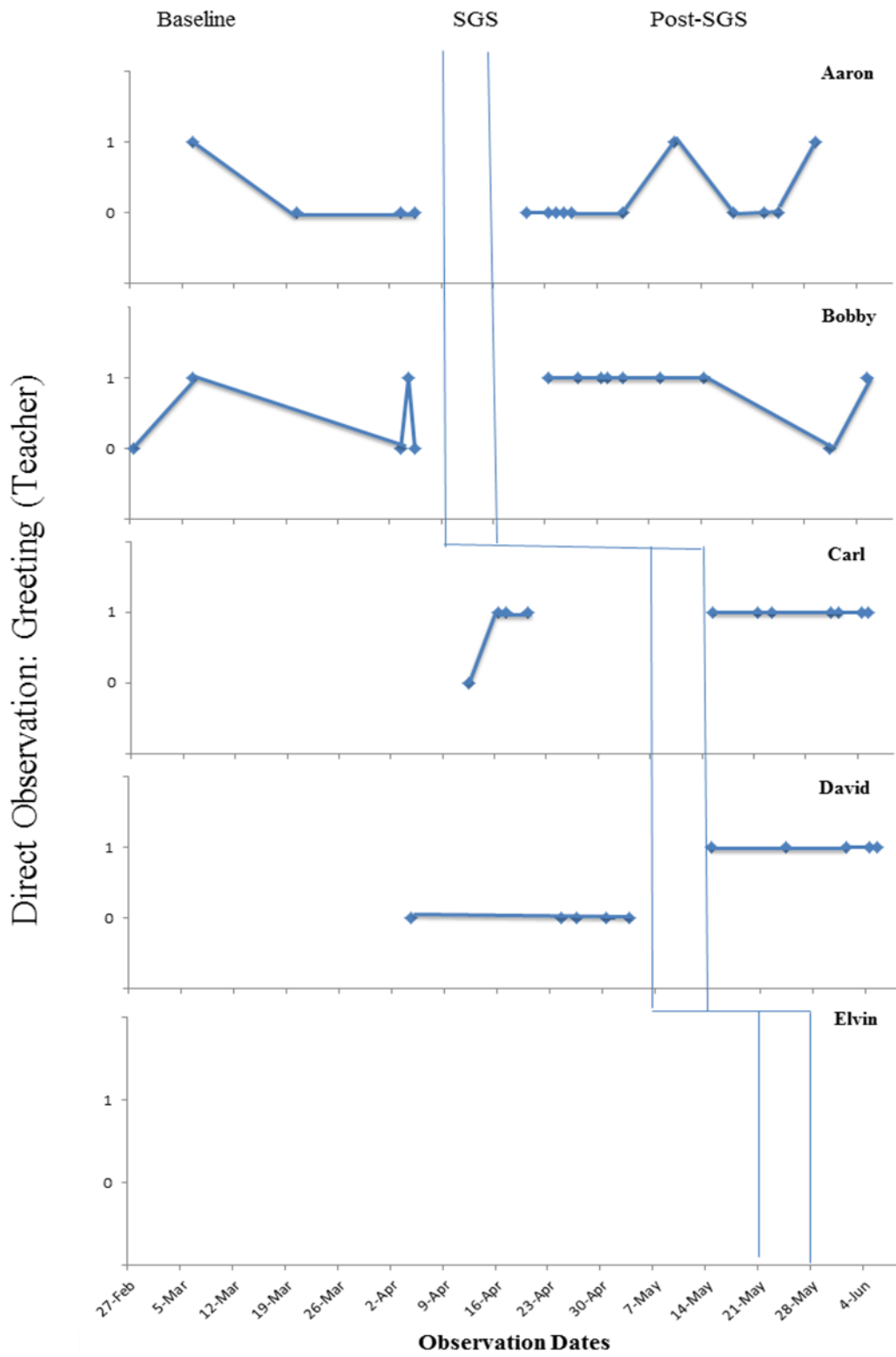
Figure 8. Observed teacher greeting behavior

Table 10

Observed Conditional Probabilities of Teacher Greeting in Response to Student Greeting

	Phase	
	Baseline	Post-Instruction
Aaron	N = 4	N = 11
Conditional probability	100%	100%
Bobby	N = 4	N = 9
Conditional probability	100%	100%
Carl	N = 4	N = 7
Conditional probability	100%	100%
David	N = 6	N = 5
Conditional probability	NO	100%
Elvin	N = 0	N = 0
Conditional probability	NO	NO

Note. NO = Not observed. N = number of opportunities to observe

Data collectors had the opportunity to observe the occurrence or non-occurrence of Aaron's teachers' greeting behavior on four occasions during baseline. His teachers replied to his greeting on March 6. They did not greet Aaron during the final three observations of the phase. After Aaron completed SGS instruction his teachers did not greet him during the first six observations of the phase. His teachers replied to greetings on May 10 and May 29. The conditional probability of teacher greeting given a student greeting was 100% in both phases. Results of the direct observation data showed a small decrease in level (7 percentage points), with greater variability and a slightly increasing

trend. TS data did not show evidence of an immediate treatment effect for Aaron's teachers.

Data collectors had four opportunities to observe the occurrence or non-occurrence of Bobby's teachers' greeting behavior during baseline. They demonstrated the behavior on two occasions during the phase, replying to Bobby's greeting on March 6 and initiating the greeting on April 4. A stable pattern of teacher greeting was not established before Bobby transitioned to the SGS instruction phase. After instruction, his teacher initiated a greeting on April 23 to which Bobby replied. Bobby then initiated greetings over the next six observations, with his teachers replying each time. No greeting was observed on June 1 and the teacher replied to Bobby's greeting on June 5. The conditional probability of teacher greeting given student greeting was 100% during baseline and post-SGS instruction. The results of the direct observation data showed evidence of a within-subject treatment effect. An increase in level of 49 percentage points and a decrease in variability were observed. There was also some evidence of immediacy of effect.

Data collectors had four opportunities to observe the greeting behavior of Carl's teachers during baseline. They replied to student initiated greetings in each of the final three observations of the phase. After SGS instruction, Carl's teachers replied to student initiated greetings in each of the seven observations in the phase. Results of the direct observation data showed that Carl's teachers never initiated a greeting in either phase, however they did reply to each student-initiated greeting. The conditional probability that his teachers replied to Carl's greetings was 100% in baseline and post-SGS instruction phases. An increase of 25 percentage points and a decrease in variability were

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observed during post-instruction, however the similarity in patterns of responding between phases prevented the determination of a within-subject effect.

Data collectors had six opportunities to observe the occurrence or non-occurrence of David's teachers' greeting behavior. There were zero teacher or student initiated greetings observed during baseline. After SGS instruction, his teachers replied to Carl's greetings on May 14, May 24, June 4, and June 5. His teacher initiated a greeting on June 1. Results of direct observation data showed evidence of a within-subject effect. An increase in level of 100 percentage points and an immediate treatment effect were observed. The trend remained stable through both phases with no within phase variability.

Data collectors had no opportunity to observe Elvin's teacher's greeting behavior during the study.

Direct observation data in Figure 8 did not meet the necessary criteria to demonstrate a functional relation between student use of the SGS greeting behavior and improved rates of teacher greetings. The missing data from Elvin's teacher prevented interpretation of a functional relation as there were two rather than the minimum of three points in time in which to demonstrate within-subject effects. Baseline levels were low and stable for Aaron and David's teachers, while Bobby's teacher replied to a student greeting on March 6 and initiated a greeting on April 4. Carl's teachers demonstrated a stable pattern of replying to teacher-initiated greetings prior to the commencement student instruction. Following student completion of the SGS instruction there were increases in the overall level of greeting behavior across all students' teachers. The repeated demonstrations of the greeting behavior by Carl's teachers during baseline

prevented compelling demonstration of a within-subject effect. The increased level and decreased variability demonstrated by Bobby's teachers' data suggested a within-subject effect. Employing a modified set of visual analysis variables suggested that the results from Bobby and David offered demonstration of two within-subject effects at two different points in time.

Individualized support. Figure 9 and Tables 11 through 16 present direct observation data of teacher provision of individualized support to target students.

Aaron's teachers provided a low (17% of observations) and stable pattern of individualized support during baseline. He received two intervals of support on March 6 and subsequently received no observed support during the remaining observations in baseline. After Aaron's completion of SGS instruction his teachers demonstrated a small (8 percentage points) increase in individualized support behavior with greater variability and a slight upward trend. The data showed no immediate treatment effect. Given the similarities in overall level of support there is no evidence of a treatment effect.

Bobby's teachers displayed a low (14% of observations) and stable pattern of individualized support during baseline. He received one interval of support on March 6, with no observed support during other observations in the phase. After Bobby completed SGS instruction there was a 21 percentage point increase in overall level of support with greater variability and a slight upward trend. There was no indication of an immediate effect. As a result of the increased variability and low overall level of support (35% of observations) observed during the post-instruction phase, there was no compelling evidence for a within-subject effect.
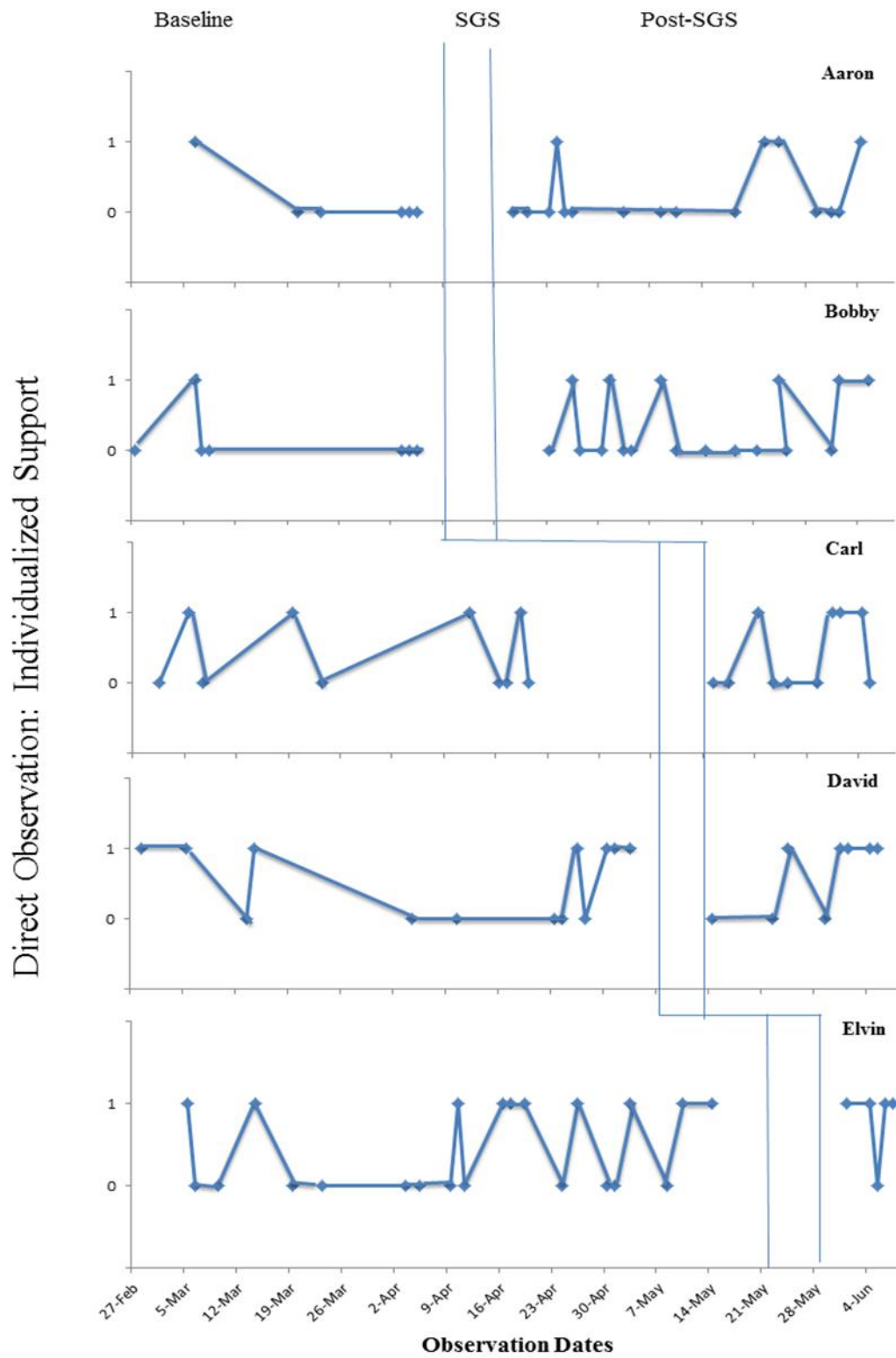
Figure 9. Observed individualized support behavior

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Carl's teachers displayed a low to moderate level (40% of observations) of individualized support behavior during baseline with high variability. After Carl completed SGS instruction his teachers demonstrated no change in level and a decrease in variability. A lack of an immediate treatment effect and a slightly increasing trend were observed during the phase. The lack of change in overall level suggested no within-subject treatment effect.

David's teachers demonstrated a moderate level (54% of observations) and variable pattern of individualized support behavior in baseline with a slight upward trend. They provided David with support in four of the final five observations of the phase. After David completed SGS instruction his teachers demonstrated a small (9 percentage points) increase in level with an increasing trend and less variability. The data showed a lack of immediate treatment effect. The similarities between observations at the end of baseline and throughout the post-instruction phase suggested that there was no indication of a within-subject effect.

Elvin's teachers demonstrated a moderate level (45% of observations) and variable pattern of individualized support behavior in baseline with a slight upward trend. They provided Elvin with support in three of the final four observations of the phase. After Elvin completed SGS instruction his teachers demonstrated and 35 percentage point increase in level with less variability and no trend. The similarities between observations at the end of baseline and throughout the post-instruction phase suggested that there was no indication of a within-subject effect.

Direct observation data in Figure 9 do not demonstrate a functional relation between student use of the SGS target behaviors and improved rates of teachers'

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provision of individualized supports. Baseline levels were low and stable for Aaron and Bobby. Carl, David, and Elvin demonstrated low to moderate and variable patterns of behavior during the phase. After students completed the SGS instruction there were small to moderate increases in level for all students' teachers. Data on Aaron and Bobby's teachers' behavior showed greater variability in the phase. Carl, David, and Elvin's behavior showed similar patterns as observed during baseline. Employing a modified set of visual analysis variables suggested that the low to moderate overall level of individualized support and similarities between baseline and post-SGS instruction phases demonstrated no within-subject treatment effects.

Table 11 shows the type and quantity of individualized supports provided to Aaron during baseline and post-SGS instruction phases. The conditional probability of teacher support given student request was not observed during baseline and reached 83% during post-instruction. The average number of intervals of support provided per day increased from 0.0 to 1.3 for requested support (i.e. support following a student request), from 0.3 to 0.4 for non-requested support (i.e. teacher initiated support), and from 0.3 to 1.7 intervals overall.

Table 11

Summary of Observed Individualized Supports Provided to Aaron

	Phase	
	Baseline (N = 6)	Post-Instruction (N = 16)
Conditional probability	NO	83%
Request (% of total)	0 (0%)	20 (76%)
Per day	0.0	1.3
Non-request (% of total)	2 (100%)	7 (24%)
Per day	0.3	0.4
Total	2	27
Per day	0.3	1.7

Note. NO = Not observed. N = number of opportunities to observe

Table 12 shows the type and quantity of individualized supports provided to Bobby during baseline and post-SGS instruction phases. The conditional probability of teacher support given student request was not observed during baseline and reached 100% during post-instruction. The average number of intervals of support provided per day increased from 0.0 to 0.1 for requested support, from 0.1 to 1.8 for non-requested support, and from 0.1 to 1.9 intervals overall.

Table 12

Summary of Observed Individualized Supports Provided to Bobby

| | Phase | |
	Baseline (N = 7)	Post-Instruction (N = 17)
Conditional probability	NO	100%
Request (% of total)	0 (0%)	2 (6%)
Per day	0.0	0.1
Non-request (% of total)	1 (100%)	31 (94%)
Per day	0.1	1.8
Total	1	33
Per day	0.1	1.9

Note. NO = Not observed. N = number of opportunities to observe

Table 13 shows the typed and quantity of individualized supports provided to Carl during baseline and post-SGS instruction phases. The conditional probability of teacher support given student request increased from 83% in baseline to 100% during post-instruction. The average number of intervals of support provided per day increased from 0.4 to 0.9 for requested support, from 1.2 to 2.1 for non-requested support, and from1.6 to 3.0 intervals overall.

Table 13

Summary of Observed Individualized Supports Provided to Carl

	Phase	
	Baseline (N = 10)	Post-Instruction (N = 10)
Conditional probability	83%	100%
Request (% of total)	4 (25%)	9 (30%)
Per day	0.4	0.9
Non-request (% of total)	12 (75%)	21 (70%)
Per day	1.2	2.1
Total	16	30
Per day	1.6	3.0

Note. NO = Not observed. N = number of opportunities to observe

Table 14 shows the type and quantity of individualized supports provided to David during baseline and post-SGS instruction phases. The conditional probability of teacher support given student request increased from 73% in baseline to 92% in the post-instruction phase. The average number of intervals of support provided per day increased from 1.2 to 6.0 for requested support, from 0.6 to 3.9 in non-requested support, and from 1.8 to 9.9 intervals overall.

Table 14

Summary of Observed Individualized Supports Provided to David

	Phase	
	Baseline (N = 13)	Post-Instruction (N = 8)
Conditional probability	73%	92%
Request (% of total)	16 (67%)	48 (69%)
Per day	1.2	6.0
Non-request (% of total)	8 (33%)	31 (39%)
Per day	0.6	3.9
Total	24	79
Per day	1.8	9.9

Note. NO = Not observed. N = number of opportunities to observe

Table 15 shows the type and quantity of individualized supports provided to Elvin during baseline and post-SGS instruction phases. The conditional probability of teacher support given student request increased from 66% during baseline to 100% during post-instruction. The average number of intervals of support provided per day increased from 1.4 to 5.4 for requested support, from 1.1 to 4.4 for non-requested support, and from 2.5 to 9.8 intervals overall.

Table 15

Summary of Observed Individualized Supports Provided to Elvin

| | Phase | |
	Baseline (N = 22)	Post-Instruction (N = 5)
Conditional probability	66%	100%
Request (% of total)	30 (56%)	27 (55%)
Per day	1.4	5.4
Non-request (% of total)	24 (44%)	22 (45%)
Per day	1.1	4.4
Total	54	49
Per day	2.5	9.8

Note. NO = Not observed. N = number of opportunities to observe

Table 16 presents a summary of Wilcoxon's Signed-Ranks Tests comparing the average rates of individualized supports in baseline and post-SGS instruction phases. Results showed target students received more intervals of requested (Z = -2.02, p = 0.04), non-requested, (Z = -2.03, p = 0.04), and total support (Z = -2.03, p = 0.0) during the post-instruction phase.

Table 16

Summary of Wilcoxon's Signed-Ranks Tests Comparing Rates of Individualized Support

| | Phase | | | | | Signed Ranks | | |
| | Baseline | | Post-Instruction | | | | | |
	M	(SD)	M	(SD)	Change	(+)	(-)	Z
Requested	0.60	0.66	2.74	2.74	2.08	5	0	-2.02*
Non-requested	0.66	0.48	2.52	1.63	1.86	5	0	-2.03*
Total	1.26	1.03	5.26	4.22	4.00	5	0	-2.03*

Note. $*p < 0.05$

Advanced notice. Figure 10 and Table 17 present direct observation data of

teachers' use of the advanced notice behaviors.

Aaron's teachers demonstrated a low and stable pattern of responding during

baseline. His teacher displayed one behavior on March 20 and zero during the other

observations in the phase. After completing SGS instruction his teachers demonstrated a

slight decrease in overall level in regard to the percentage of observations, however four

behaviors were observed during a single observation on April 20. No behaviors were

observed over the final nine observations of the phase. Aaron's teachers' data did not

show evidence of a within-subject treatment effect.
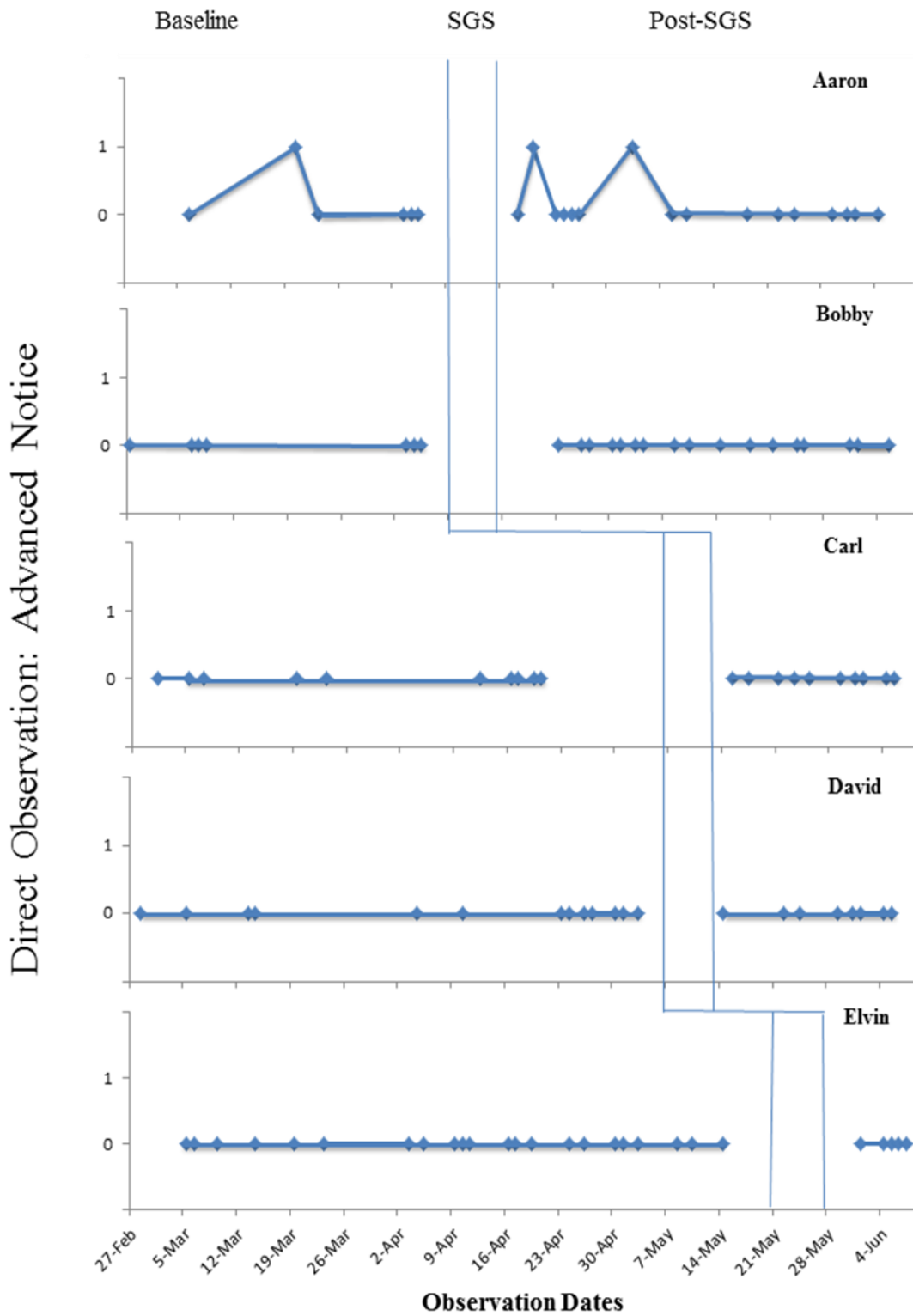
Figure 10. Observed teacher use of the advanced notice behavior

Table 17

Frequencies and Percentages of Teachers' use of Advanced Notice Behavior

	Phase	
	Baseline	Post-Instruction
Aaron	N = 6	N = 16
Total (% of observations)	1 (17%)	5 (13%)
Bobby	N = 7	N = 17
Total (% of observations)	0 (0%)	0 (0%)
Carl	N = 10	N = 10
Total (% of observations)	0 (0%)	0 (0%)
David	N = 13	N = 8
Total (% of observations)	0 (0%)	0 (0%)
Elvin	N = 22	N = 5
Total (% of observations)	0 (0%)	0 (0%)

Note. N = number of opportunities to observe

No behaviors were observed while observing Bobby, Carl, David, or Elvin. Direct observation data in Figure 10 do not demonstrate a functional relation between student use of the SGS behaviors and teacher use of the advanced notice behavior. The behavior was only observed for one student. Aaron's teachers demonstrated similar levels and patterns of responding both before and after SGS instruction. Analysis of the entire graph showed zero demonstrations of within-subject effects.

Teacher feedback. Figure 11 and Table 18 present direct observation data of teacher feedback.

Table 18

Conditional Probabilities of Teacher Feedback

	Phase	
	Baseline	Post-Instruction
Aaron	N = 3	N = 11
Conditional probability	NO	100%
Bobby	N = 6	N = 13
Conditional probability	NO	100%
Carl	N = 3	N = 8
Conditional probability	NO	100%
David	N = 7	N = 6
Conditional probability	NO	100%
Elvin	N = 10	N = 4
Conditional probability	NO	100%

Note. NO = Not observed. N = number of opportunities to observe
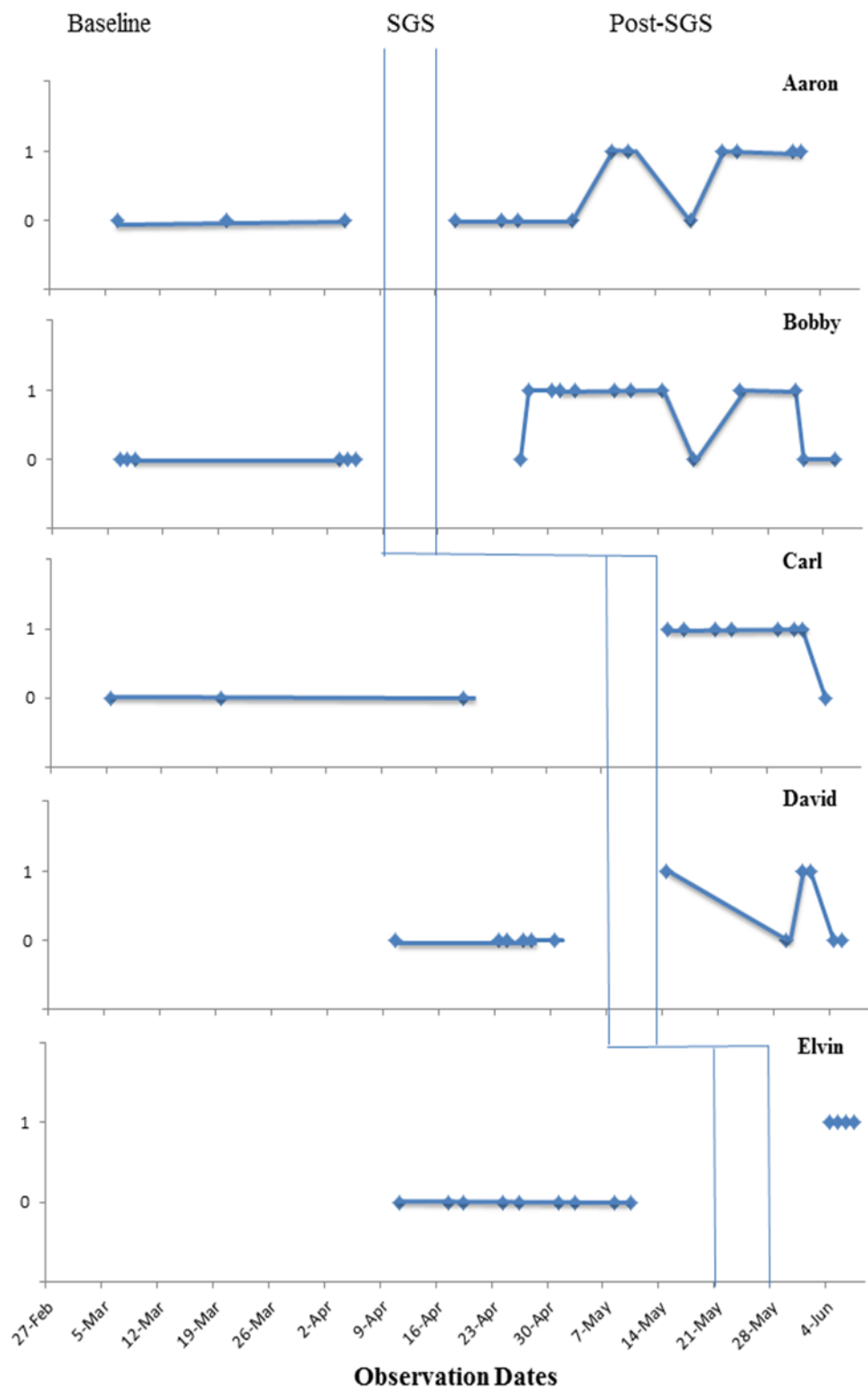
Figure 11. Observed teacher feedback

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Aaron's teachers did not demonstrate the request for feedback behavior during baseline. They continued to not demonstrate the behavior during the first four observations of the post-instruction phase. His teachers did respond to his requests for feedback in six of the seven subsequent observations. The conditional probability of teacher feedback given student request was not observed during baseline and reached 100% during the post-SGS instruction phase. Aaron's teachers provided student feedback in 55% of observations with an increasing trend and greater variability during the phase. The delay between the completion of instruction and his teacher's first demonstration of the behavior discouraged the determination of a within-subject effect.

Bobby's teachers did not demonstrate the request for feedback behavior during baseline. They also did not demonstrate the behavior during the initial observation of the post-SGS instruction phase. His teachers replied to Bobby's seven requests over the 11 subsequent observations. The conditional probability of teacher feedback given student request was not observed during baseline and reached 100% after instruction. Bobby's teachers demonstrated a 54 percentage point increase in level with a slightly decreasing trend and greater variability during the post-instruction phase. Bobby's teachers did not demonstrate teacher feedback in the final two observations of the phase. Despite this decreasing pattern toward the end of the post-instruction phase there appeared to be evidence of a within-subject treatment effect.

Carl's teachers also did not demonstrate the request for feedback behavior during baseline. They responded to Carl's seven requests over the eight observations during the post-SGS instruction phase. The conditional probability of teacher feedback given student request was not observed during baseline and reached 100% during post-

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instruction. Carl's teachers demonstrated an 88 percentage point increase in level during

the phase, with slightly greater variability and a slightly decreasing trend. His teachers

did not demonstrate the feedback behavior during the final observation. Notwithstanding

this late decrease, the data did evidence a within-subject treatment effect.

David's teachers did not demonstrate the request for feedback behavior during

baseline. They responded to David's request during the first observation of the post-SGS

instruction phase. His teachers then responded to David's requests in two of the five

subsequent observations. The conditional probability of teacher feedback given student

request was not observed during baseline and reached 100% after SGS instruction. The

data showed a 50 percentage point increase in the level of teacher feedback with an

increase in variability and a slightly decreasing trend. David's teachers did not

demonstrate the behavior in three of the six observations in the phase, including the final

two observations. This high level of variability led to a cautious determination of a

within-subject effect.

Elvin's teachers did not demonstrate the request for feedback behavior throughout

baseline. They responded to his requests in each of the four observations of the post-SGS

instruction phase. The conditional probability of teacher feedback given student request

was not observed during baseline and reached 100% following student instruction.

Elvin's behavior showed clear evidence of a within-subject treatment effect.

Direct observation data in Figure 11 provide support for a functional relation

between student use of the SGS behaviors and improved rates of teacher feedback.

Baseline levels were low and stable for all students' teachers. Following SGS instruction

there were increases in the overall level of teacher feedback for each student. The delay

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in increased level demonstrated by Aaron's teachers prevented compelling demonstration of a within-subject effect. Employing a modified set of visual analysis variables suggested that results from Bobby, Carl, David, and Elvin's teachers offered demonstration of four within-subject effects at three different points in time.

Table 19 presents bivariate correlations between each of the SGS and TS behaviors. Student greetings were associated with: a) student acknowledgement of teacher support ($r = 0.441$, $p < .05$), b) student request for feedback ($r = 0.362$, $p < .05$), c) teacher greetings ($r = 1.000$, $p < .05$), and d) teacher feedback ($r = 0.362$, $p < .05$). Student requests for support were associated with student acknowledgement of support ($r = 0.406$, $p < .05$) and teacher support ($r = 0.671$, $p < .05$). Student acknowledgement of teacher support was associated with teacher greeting ($r = 0.441$, $p < .05$). Student request for feedback was associated with teacher greeting ($r = 0.362$, $p < .05$) and teacher feedback ($r = 1.000$, $p < .05$). Teacher greetings were associated with teacher feedback ($r = 0.362$, $p < .05$).

Table 19

Kendall's Tau B Correlations of SGS and TS Behaviors

	1	2	3	4	5	6	7	8
SGS behaviors								
1 Greeting								
2 Question	0.183							
3 Support	-0.113	-0.108						
4 Acknowledge	0.441*	-0.126	0.406**					
5 Feedback	0.362*	-0.144	0.065	0.204				
TS behaviors								
6 Greeting	1.000**	0.183	-0.113	0.441*	0.362*			
7 Support	0.118	0.035	0.671**	0.088	-0.054	0.118		
8 Advanced notice	-0.276	-0.032	-0.091	-0.088	-0.097	-0.276	-0.135	
9 Feedback	0.362*	-0.144	0.065	0.204	1.000**	0.362*	-0.054	-0.097

Note. *p < 0.05. **p < 0.01

Perceived support. Table 20 shows a summary of teacher ratings of support provided and student ratings of help received. Ratings were averaged for each student in baseline and post-SGS instruction phases. Table 21 shows the result of a Wilcoxon's Signed-Ranks Test comparing the average teacher ratings of individualized support provided during baseline to the average ratings reported during post-instruction.

Table 20

Teacher Perceptions of Support Provided and Student Perceptions of Help Received

		Phase		
Report	Student	Baseline	Post-Instruction	Change
Individualized support				
	Aaron	3.0	2.8	-0.2
	Bobby	2.7	3.1	+0.4
	Carl	3.1	3.5	+0.4
	David	3.0	3.1	+0.1
	Elvin	2.1	2.7	+0.6
	Total	2.8	3.0	+0.2
Help received				
	Aaron	3.0	2.2	-0.8
	Bobby	1.7	2.3	+0.6
	Carl	2.9	2.4	-0.5
	David	NC	4.0	NC
	Elvin	2.6	2.7	+0.1
	Total	2.6	2.4	-0.2

Note. NC = Not Calculated

Table 21

Summary of Wilcoxon's Signed-Ranks Test Comparing Baseline and Post-Instruction

Ratings Individualized Support

| | Phase | | | | | Signed Ranks | | | |
| | Baseline | | Post-Instruction | | | | | | |
	M	(SD)	M	(SD)	Change	(+)	(-)	(=)	Z
Individual support	2.78	0.41	3.04	0.31	0.26	4	1	0	-1.49
Help received	2.55	0.59	2.72	0.74	0.17	2	2	0	-

Aaron's teachers reported a small decrease from 3.0 to 2.8 in ratings of

individualized support provided to the student. Increases in ratings of support provided

were reported for Bobby (2.7 to 3.1), Carl (3.1 to 3.5), David (3.0 to 3.1), and Elvin (2.1

to 2.7). Results of a Wilcoxon's Signed-Ranks Test showed no statistically significant

difference in the mean ratings between phases ($Z = -1.49$, $p > .05$).

Student ratings of help received from teachers show a decrease from 3.0 in

baseline to 2.0 during post-instruction for Aaron and from 2.9 to 2.4 for Carl. Increases

in ratings of help received were reported for Bobby (1.7 to 2.3), and Elvin (2.6 to 2.7).

David did not provide data during baseline. A Wilcoxon's Signed-Ranks Test was not

performed because a minimum of five ranks are required to obtain a *p*-value below 0.05.

The lack of baseline data for David prevented the student report data from meeting this

minimum requirement.

Classroom Climate

Classroom climate variables were collected during direct observations. Table 22 shows a comparison of the average number of climate variables recorded during each observation. The target climate variables were: a) positive academic comment, b) negative academic comment, c) positive social comment, and d) negative social climate.

Table 22

Summary Observed Teacher Comments

| | Phase | | | | | Signed Ranks | | | |
| | Baseline | | Post-Instruction | | | | | | |
	M	(SD)	M	(SD)	Change	(+)	(-)	(=)	Z
Positive academic	0.76	0.49	0.48	0.33	-0.43	2	3	0	-0.94
Negative academic	0.01	0.20	0.03	0.06	0.02	1	1	3	-0.45
Positive social	0.09	0.08	0.00	0.00	-0.09	0	3	2	-1.60
Negative social	0.12	0.15	0.14	0.13	0.02	3	1	1	-0.37

Results of Wilcoxon's Signed-Ranks Tests showed that there were no changes in observed positive academic comments ($Z = -0.94$, $p > .05$), negative academic comments ($Z = -0.45$, $p > .05$), positive social comments ($Z = -1.60$, $p > .05$), and negative social comments ($Z = -0.37$, $p > .05$) directed from teachers toward target students between baseline and post-SGS instruction phases.

Academic Engagement

Figure 12 shows direct observation data of student academic engagement. The x-axis represents the percentage of 10-second intervals in which the student was academically engaged. The y-axis represents observation dates.

Aaron demonstrated highly variable levels of academic engagement with a downward trend during baseline. The percentage of 10-second intervals in which he was academically engaged ranged from a high of 83% on March 6 to a low of 42% on April 3. Aaron was academically engaged for 55% of intervals during the final two observations on April 4 and April 5. His mean level of academic engagement was 60% during baseline. Aaron's pattern of responding during the post-SGS instruction phase was similar to baseline, with a high level of variability (range = 17% to 80%) and a downward trend. There was no evidence of an immediate treatment effect and his average level of engagement (49%) decreased during the phase. One-hundred percent of the data points in the post-SGS instruction were at or below levels observed during baseline. Aaron's data presented no evidence of a within-subject effect.
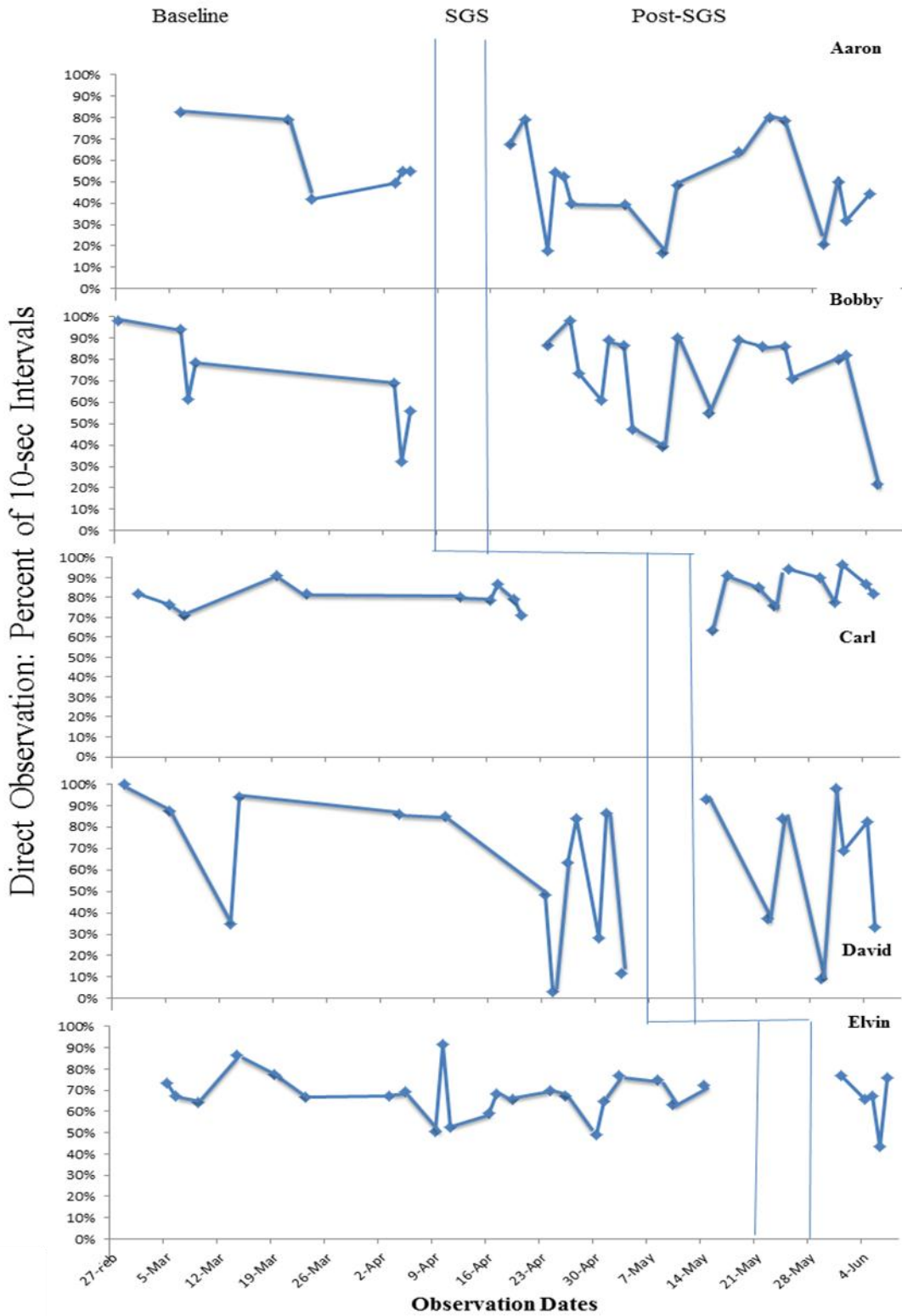
Figure 12. Observed student academic engagement

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Bobby demonstrated moderate to high levels of academic engagement with a downward trend during baseline. The percentage of 10-second intervals in which he was academically engaged ranged from 98% on February 27 to 33% on April 4. His average level of academic engagement was 70% during the phase. Aaron's levels of academic engagement during the final three observations of baseline were 69%, 33%, and 56% on April 3, 4, and 5 respectively. There was some evidence of an immediate treatment effect as the initial observations of the post-SGS instruction phase showed levels of academic engagement of 87%, 98%, and 73% on April 23, 26, and 27. This represented an approximately 33 percentage point increase over the final observations in baseline. However, there was even greater variability (range = 22% to 98%) during post-instruction, and a small increase in average level (3 percentage points). One-hundred percent of data points during the post-instruction phase overlapped levels observed during baseline. Bobby's data did not present evidence of a within-subject effect.

Carl's academic engagement ranged from a high of 91% on March 19 to a low of 71% of 10-second intervals on March 7 and April 20. This 20 percentage point range represented a relatively low level of variability when compared to other students. Carl's pattern of responding was stable with no discernible trend during baseline. His average level of academic engagement was 80% of intervals. Moving into the post-SGS instruction phase Carl displayed his lowest level of academic engagement (63%) on May 15. During his next observation he was academically engaged for 91% of 10-second intervals. This change was representative of the greater variability (range 63% to 97%) found during the post-instruction phase. Carl's behavior during baseline showed a slightly upward trend with a small increase in average level (4 percentage points). There

was also no evidence of an immediate treatment effect. Seventy percent of data points in the post-instruction phase overlapped levels observed in baseline. Carl showed no indication of within-subject effect.

David's academic engagement was highly variable (range = 3% to 100%) and showed a downward trend throughout baseline. The initial observations in the phase showed high levels of academic engagement on February 28 (100%) and March 5 (88%). This level decreased to 35% of intervals on the subsequent observation (March 13). The average level during baseline was approximately 63% of intervals. David demonstrated a high level of engagement during the first observation in the post-instruction phase on May 14 (93%). This level dropped to 38% of intervals in the subsequent observation on May 22. David's academic engagement remained highly variable (range = 9% to 98%) throughout the phase. There was no discernible change in average level or evidence of an immediate treatment effect when moving from baseline to post-SGS instruction. Carl's behavior also showed a slightly downward trend across the phase. One-hundred percent of the data points in post-instruction overlapped levels observed in baseline. There was no visual evidence of a within-subject effect.

Elvin's academic engagement ranged from a high of 92% on April 10 to a low of 49% on April 30 during baseline. The average level of behavior during the post-SGS instruction phase was 68% of intervals with academic engagement. There was also no discernible trend during baseline. After instruction there was no evidence of a change in behavior. Elvin's average level of academic engagement (66%) remained stable and there was no indication of an immediate treatment effect. His behavior remained moderately variable (range = 43% to 77%) with a slight downward trend. One-hundred

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percent of data points during the phase were at or below the levels observed during baseline. Elvin's data presented no evidence of a within-subject effect.

Direct observation data in Figure 12 provided no support for a functional relation between teacher demonstration of the TS behaviors and improved rates of student academic engagement. Baseline levels were moderate to high for each of the participants. Aaron, Bobby, David, and Elvin showed variable patterns of academic engagement during the phase. Carl demonstrated less variability than his fellow participants. Following SGS instruction there were small changes in overall level of engagement, high proportions of overlapping data points, with no reduction in variability. There were also small changes in trend. Employing a full set of visual analysis variables showed no demonstrations of within-subject effects.

Teacher and student perception. Table 23 shows teacher ratings of perceived student engagement and student ratings of perceived classroom effort. Ratings had a possible range of one to five with higher scores indicative of higher perceived engagement or effort. Table 24 shows a summary of results from two Wilcoxon's Signed-Ranks Tests.

Table 23

Teacher and Student Perceptions of Student Engagement and Effort

Report	Student	Phase		Change
		Baseline	Post-Instruction	
Engagement (teacher rating)				
	Aaron	2.0	2.5	+0.5
	Bobby	3.7	3.7	0.0
	Carl	4.9	4.5	-0.4
	David	2.0	3.0	+1.0
	Elvin	3.6	1.7	-1.9
	Total	3.2	3.1	-0.1
Effort (student rating)				
	Aaron	4.1	3.7	-0.4
	Bobby	1.7	2.3	+0.6
	Carl	4.0	4.0	0.0
	David	NC	4.0	NC
	Elvin	4.3	3.3	-1.0
	Total	3.5	3.3	-0.2

Note. NC = Not Calculated.

Table 24

Summary of Wilcoxon's Signed-Ranks Test Comparing Baseline and Post-Instruction

Ratings of Student Behavior

	Phase					Signed Ranks			
	Baseline		Post-Instruction						
	M	(SD)	M	(SD)	Change	(+)	(-)	(=)	Z
Engagement	3.24	1.24	3.08	1.08	-0.16	2	2	1	0.00
Effort	3.53	1.22	3.46	0.71	-0.07	1	2	1	

The average teacher ratings of student engagement increased between baseline and post-SGS instruction phases for Aaron (2.0 to 2.5) and David (2.0 to 3.0), decreased for Carl (4.9 to 4.5) and Elvin (3.6 to 1.7), and remained constant for Bobby (3.7). Results of a Wilcoxon's Signed-Ranks Test showed that there was no change in teachers' perception of student engagement ($Z = 0.00$, $p > .05$) between baseline and post-SGS instruction phases.

The average student ratings of student effort in class increased for Bobby (1.7 to 2.3), decreased for Aaron (4.1 to 3.7) and Elvin (4.3 to 3.3), and remained stable for Carl (4.0). No student ratings for David were available during baseline. A Wilcoxon's Signed-Ranks Test was not conducted as a minimum of five ranks are required to have a possible p-value below 0.05. The lack of baseline data for David prevented the student report data from meeting this minimum requirement.

Grades, Social Validity, and Feedback

Data on student grades are presented in Table 25. Table 26 shows student responses to the social validity survey. Table 27 shows student difficulty rankings of

each SGS behavior and Table 28 shows student rankings of each behavior's perceived helpfulness.

Grades. Table 25 shows student letter grades at the completion of baseline and at the end of the post-instruction phase. Aaron's grades decreased from a B to an F in his World History class and from a C to an F in his English Literature course. Bobby's grades increased in both his World History (C to B+) and English Literature (C to B) classes. Carl maintained an A in his target classroom throughout the study. David's grades improved from an F to a C+ in World History and from an F to a C in English Literature. Elvin's grade (A) remained constant in his Algebra I class.

Table 25

Student Letter Grades Before and After Instruction

	Class			
	World History		English Literature	
Student	Baseline	Post-Instruction	Baseline	Post-Instruction
Aaron	B	F	C	F
Bobby	C	B+	C	B
Carl	A	A		
David	F	C+	F	C
	Algebra I			
	Baseline	Post-Instruction	Baseline	Post-Instruction
Elvin	A	A		

Social validity. Table 24 shows student responses to social validity questions on the post-intervention survey. The help received item asked: "Do you think using the

behaviors increased the help you received from teachers?" The assignment completion item asked: "Do you think receiving help from the teacher helps you complete your assignments?" Aaron believed that using the SGS behaviors did increase the help he received from teachers and that teacher help benefits assignment completion. Bobby and Carl provided the same responses for the two items. Elvin did not believe that using the SGS behaviors increased the help he received from his teacher, but did believe that receiving teacher help benefits assignment completion.

Table 26

Student Responses to Social Validity Survey

	Survey Item	
Student	Help Received	Assignment Completion
Aaron	Yes	Yes
Bobby	Yes	Yes
Carl	Yes	Yes
David	-	-
Elvin	No	Yes

Student feedback. Table 27 shows student rankings of each of the SGS behaviors. Students were asked to rank the behaviors in order of their difficulty to perform. Higher scores indicated greater difficulty. Requesting teacher feedback ranked as the most difficult SGS behavior for students to perform, followed by acknowledging teacher support, requesting teacher support and asking engaging questions. Greeting the teacher ranked as the easiest behavior to perform.

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Table 27

Student Difficulty Rankings of Performing SGS Behaviors (higher scores indicate greater difficulty)

	SGS Behaviors				
Student	Greeting	Question	Help Request	Acknowledge	Feedback
Aaron	-	-	-	-	-
Bobby	1	4	3	2	5
Carl	1	2	5	4	3
David	-	-	-	-	-
Elvin	1	2	3	5	4
Overall rank	1	2	3	4	5

    Table 28 shows student rankings of the perceived helpfulness of each SGS behavior. Higher scores indicated greater utility. Requesting teacher feedback ranked as the most helpful behavior, followed by teacher greeting, acknowledgement of teacher support, and requesting teacher support. The least helpful behavior according to students was asking an engaging question.

Table 28

Student Perceived Helpfulness of SGS Behaviors (lower scores indicate greater

helpfulness)

Student	SGS Behaviors				
	Greeting	Question	Help Request	Acknowledge	Feedback
Aaron	-	-	-	-	-
Bobby	1	3	4	2	5
Carl	5	1	2	4	3
David	-	-	-	-	-
Elvin	4	2	1	3	5
Overall rank	4	1	2	3	5

CHAPTER IV

DISCUSSION

The purpose of this study was to determine if participation in the SGS curriculum would initiate constructive interaction cycles between five high school students and their teachers. Students were taught a set of SGS behaviors designed to elicit and reinforce TS behaviors. Demonstration of these TS behaviors was hypothesized to function as prompts and reinforcement for student positive-academic behaviors, resulting in a pattern of responding in which students and teachers would engage in higher levels of the SGS, positive academic and TS behaviors respectively. Establishment of this constructive cycle of classroom interactions was hypothesized to then increase student academic engagement and educational performance.

Student-Guided Supports Behaviors

Direct observation. Results of the direct observation data showed that there was a functional relation between student participation in the SGS curriculum and improved rates of student use of the request for feedback target behavior. Bobby, Carl, David, and Elvin demonstrated within-subject treatment effects. Aaron demonstrated an eventual increase in the request for feedback behavior however the delay from the cessation of instruction to his first display of the behavior raises concerns over experimental control. Given the delay in responding, there is a possibility that something other than participation in the curriculum was responsible for his increased use of the behavior.

Although four of the students demonstrated within-subject effects there was some variability in the use of the feedback behavior during post-instruction. One potential

explanation for this observed variability is the effect of competing contingencies on student behavior. Bobby, Carl and David's target classes were scheduled just prior to the school's lunch period. On days in which classroom activities or teacher instruction continued until the end of the class period these students were forced to choose between missing a short amount of their lunch break and initiating a request for teacher feedback. Leaving class as close to the end of the period as possible allows students access to potential reinforcement such as receipt of food before peers or increased social time with friends. This competing contingency may have contributed to the observed variability in use of the request for feedback behavior.

One possible way to address this issue would be to have students and teachers agree to request and provide feedback prior to the scheduled end of the class period. Such an arrangement would reduce or remove the effects of the competing contingencies.

Results of direct observation data also showed two within-subject effects for student greetings at two different points in time. Bobby and David showed large increases in overall level of behavior during post-instruction. Carl also demonstrated a high level of the behavior during the post-instruction phase however he had established a stable pattern of greeting his teachers in baseline. Elvin's missing data removed the necessary third time point that was required to demonstrate a functional relation between instruction and student use of SGS target behaviors. Despite this inability to demonstrate a functional relation, the results of the direct observation data were encouraging and suggest that a functional relation could be demonstrated in future investigations.

In future studies a second student should be added to the third cohort to allow for a demonstration of a functional relation, even with the presence of missing data. An

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alternative response would be to add additional cohorts to increase the likelihood that within-subject effects could be demonstrated at a minimum of three different time points.

Results of direct observation data demonstrated a lack of a functional relation between participation in the SGS curriculum and: a) student requests for support, b) student acknowledgment of support, and c) asking engaging questions. A potential explanation for the lack of treatment effects associated with the request for support behavior is that instruction focused on increasing the efficiency with which students requested teacher support. The SGS lessons did not focus on increasing the overall level of student use of the behavior. The similarities in baseline and post-instruction phases for each participant could indicate that instruction had no effect on student perceptions of when they needed help. Students were taught to ask for support when they needed it, if there were no changes to the classroom environment that would alter their need of teacher support then there would be no need for students to alter their patterns of responding. A more appropriate approach to measuring the effects of the SGS curriculum on student requests for support would be collect some additional information on the quality of student requests in addition to the quantity. Observers could rate each request using the following variables: 1) student referenced directions or asked a peer before request, 2) student appropriately recruited teacher attention (e.g. hand raise), and 3) student was specific in request (e.g. clear statement of the problem). Each of these additional variables would be rated on a dichotomous scale of occurrence or non-occurrence and would allow for a richer evaluation of the effects from instruction.

Both the percentages of observations with acknowledgement and the conditional probabilities of student acknowledgment given teacher support were low throughout the

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study for Aaron, Bobby, Carl, and Elvin. Results of direct observation data did show that David demonstrated a within-subject treatment effect. This effect notwithstanding, one possible explanation for the low use of the behavior is a possible discrepancy in what was coded and what students perceived as individualized support. The operational definition of individualized support was purposely left broad to capture several different types of teacher-student interactions. Support could take the form of assistance with task completion, answering questions, and checking on student progress. It is possible that student definitions of individualized support were not as broad as the data collectors'. This potential discrepancy would have the effect of decreasing the number of perceived response opportunities for students and thereby decreasing the number of observed acknowledgements. A possible solution to this issue would be to change the SGS instruction to focus more on establishing stimulus control for this behavior. Sprague and Horner (1984) demonstrated that general case programming was an effective approach to teaching students new skills and behaviors across a range of stimulus variation. In General Case Programming one provides students with a wide range of positive and negative examples of antecedent stimuli in order to teach the general case. In other words sufficient examples and opportunities to respond are programmed into instruction to allow students to demonstrate the target skill or behavior under a broad range of conditions and settings. Including more positive and negative examples of when to demonstrate the acknowledgement behavior during instruction could have improved student use of the behavior.

A similar stimulus control issue might have been observed with the engaging question SGS behavior. Low levels were observed for each student. Aaron, David, and

Elvin did not ask an engaging question during observations throughout the entirety of the study. Across all students, engaging questions were observed in only four of the 114 observations. Despite this low level of use, students ranked asking engaging questions as the second easiest behavior to perform after greeting the teacher. They also ranked asking questions as the most helpful of the SGS target behaviors. Given the rankings and continued low levels of use, it is possible that students simply did not know when to demonstrate the behavior. Students were taught during instruction to ask engaging questions while the teacher was presenting material to the entire class. Although students were allowed to practice this behavior during instruction they did so under analog conditions in small group settings. It is apparent from the results of direct observation data that these practice opportunities were insufficient to establish stimulus control for the behavior. These results warrant further review of the SGS curriculum, as it appears as if students needed greater opportunities to ask engaging questions in their SGS and target before exiting the instructional phase.

Teacher and student report. Results of the teacher and student report data showed no evidence of a functional relation between student participation in the SGS curriculum and changes in student behavior in regard to the full range of SGS target behaviors. None of the students showed clear evidence of a within-subject treatment effect. Although the report data showed that students generally (Aaron's self-report data was the lone exception) engaged in higher overall levels of the SGS behaviors during the post-SGS instruction phase it was determined that within-subject effects were not present largely due to: a) the lack of immediacy in observed changes in behavior, and b) the

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greater variability and high proportion of overlapping data points observed and reported during the intervention phase.

A possible explanation for the lack of an immediate treatment effect is the proposed problems in the establishment of stimulus control that were addressed in the discussion of the direct observation results. In addition to the instructional changes offered in the discussion of direct observation data, a possible solution would be to extend the instructional phase of the SGS curriculum to two or more weeks. Instruction in the SGS lessons would occur during the first week, with the second and subsequent weeks reserved for in-vivo rehearsals of the SGS behaviors in the target classrooms. Students would remain in the instructional phase until they showed a stable increase in the number of behaviors they used each class period. Such an approach would increase the likelihood that an immediate treatment effect would be observed during the post-SGS instruction phase.

The increase in variability and high proportion of overlapping data points during intervention may have been the result of the presence of unidentified classroom and student related setting events. Setting events are distal antecedent stimuli that alter the strength or effect of potential reinforcers. The greeting, question, support request and feedback request behaviors all require students to initiate an interaction with the classroom teacher. If adult attention is reinforcing to the students it is axiomatic that the students would either maintain or increase their level of use of the SGS behaviors. However, classroom and student variables such as: a) subject matter of instruction, b) instructional activities, c) student preparedness, and d) student engagement in prohibited classroom behaviors, may alter the reinforcing properties of teacher attention each class

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period. When students are likely to get punished by teachers, as is the case when they are

not prepared or are engaging in prohibited classroom behaviors, they are less likely to

initiate the interactions that could lead to such punishment. In this situation teacher

attention could functionally punish student use of the SGS behaviors, resulting in

decreased use for that class period. Future studies should attempt to measure the effect of

potential setting events on student use of the target behaviors. A greater effort should

also be made to select participants for whom teacher attention is generally reinforcing.

The implementation of a reinforcement system to promote student use of the SGS

behaviors during the initial class periods of the post-instruction phase should also be

explored as a change in SGS behaviors is required to evaluate changes in teacher

behaviors.

Teacher Support Behaviors

The lack of sufficient change in student use of the SGS behaviors presented some

challenges in interpretation of the relationship between the SGS and TS behaviors

however a discussion of each variable is presented below.

Direct observation. The student and teacher greeting behaviors were defined in

such a way as an occurrence was scored for initiations of and replies to greetings. As a

result, the teacher greeting data perfectly replicates the student greeting data. The only

condition under which these variables would differ (i.e. an initiated greeting by either

party without a contingent reply) was not observed in this study.

Teacher greeting. Results of direct observation data showed that teachers

initiated a total of three greetings throughout the study. This low number is concerning

given the promising connection between teacher greetings and student classroom

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behavior (Allday et al., 2011; Allday et al., 2007). The conditional probability of teacher

greetings given student greetings suggested that although teachers did not frequently

initiate greetings they were responsive to student prompts. This is important as results of

direct observation data showed that two of the participants demonstrated within-subject

treatment effects, indicating that they could be successfully taught to prompt teacher

greetings. Correlations also showed a statistically significant association between teacher

greetings and: a) student acknowledgement of support ($r = .441$, $p < .05$) and b) student

request for feedback ($r = .362$, $p < .05$). Although these findings do not imply causation,

they suggest a connection between teacher and student behavior, a finding that is

supported in the literature (Carr et al., 1991; Skinner & Belmont, 1993; Wehby et al.,

2004).

Individualized support. Visual analysis of direct observation revealed no

evidence of a functional relation between student training in the request for support

behavior and the provision of individualized support. What was found was a statistically

significant correlation ($r = .671$, $p < .01$) between student requests for support and

individualized support as well as a near perfect conditional probability of individualized

support given student request. Results also indicated that students received more

intervals of both requested and non-requested individualized support after instruction.

These findings again suggest a relationship between student behavior and teacher

behavior in classrooms. They also suggest that both teachers and students contributed to

the observed increases in individualized support after instruction. While this may not

provide strong evidence of the establishment of a constructive cycle of student support, it

does match the assumption that teachers and students must both work to ensure that access to supportive teacher behavior is made available.

One possible reason for the apparent discrepancy in the visual analysis and descriptive analysis findings is that visual analysis relies upon a stable pattern of responding to document a within-subject effect. The provision of individualized support however is affected by the variability in the demands of the class and student requests for support. If students could independently manage the class' task demands during a given period, they did not need teacher support. If they did not need teacher support they were taught to not make a request. These observations would be scored as a non-occurrence and provide evidence against the determination of a within-subject effect if they occurred after SGS instruction. The use of both types of analyses is critical as they address two different issues. Visual analysis allows the documentation of experimental control by evaluating the presence of functional relations between independent and dependent variables. The descriptive analyses conducted in this study simply allow one to evaluate whether differences in mean scores are greater than what would be expected by chance. They do not provide any information about causality.

Despite the observed increases in the number of intervals of individualized support observed in the post-SGS instruction phase, there was no change in the levels of perceived teacher support (teacher ratings) or help received (student ratings) across phases. These findings suggest that while these increases were statistically significant they were not of practical significance. Teacher and student perceptions were more closely aligned to the results of visual analysis than the descriptive analyses.

Teacher feedback. Direct observation results provide support for the relationship between student and teacher behavior. Teachers consistently provided feedback upon student request, but did not engage in this behavior without being prompted. These findings provide some additional evidence that student access to teacher supports in high school is attainable provided that students solicit these supports.

Advanced notice. Advanced notice was the lone TS behavior that was not designed to be elicited by an SGS behavior. The low levels of this behavior throughout the study provide additional support for the importance of students soliciting teacher supports.

Academic Engagement

Visual inspection of direct observation data showed no change in academic engagement from baseline to intervention for any of the participants in the study. One possible explanation for this lack of change is that each of the participants was enrolled in AS prior to their participation in the study. Swain-Bradway (2009) found positive effects of AS on academic engagement for five of the six students in her study. It is possible that the students in this study had already experienced increases in academic engagement in their target classrooms prior to the present investigation. Mean levels of academic engagement were moderate to high for the participants (range = 60% to 80%) during baseline providing perhaps some additional support for prior positive effects associated with enrollment in AS.

A second possible explanation is related to the limitations in measurement. The determination of a functional relation between changes in the TS behaviors and student academic engagement was dependent upon the observation of stable changes in TS

behaviors. These changes did not occur, making identification of a functional relation difficult if not impossible.

Grades, Social Validity, and Participant Feedback

Improving student grades was not one of the purposes of this study however grade data were collected at the end of baseline and post-SGS instruction phases. Course grades decreased for one student in both of his target classes. Aaron had earned a B in World History and a C in English Literature at the end of baseline. By the end of the post-instruction phase he had an F in both classes. This decrease was largely due to a project he missed while he was out of school with an illness. His teachers had given him until the end of the regular school year to complete this project in order to have his grade adjusted. By the end of data collection Aaron had yet to turn in the project.

Four of the five participants completed social validity surveys after participation in the study. Three of the four reported that engaging in the SGS behaviors increased the amount of help they received from teachers. The dissenting student, Elvin, had the shortest intervention phase of the students. It is likely that five days were insufficient for him to observe the effects of using the target behaviors. All four student responders reported that increases in teacher help had positive effects on assignment completion. These responses showed that a majority of the students perceived a benefit from participating in the study.

CHAPTER V

LIMITATIONS

A major limitation of this study was the research design used to investigate the research questions. This study sought to answer a series of cascading research questions in which the dependent variable from the first question became the independent variable for the second question. The dependent variable from the second question then became the independent variable for the third question. To answer these questions a concurrent multiple baseline across participants design was implemented. This design included three phases: baseline, instruction, and intervention. Such a design controls for a number of internal threats to validity and allows for a demonstration of a functional relation between an independent and dependent variable. Given the cascading nature of the research questions some modifications to this design were warranted. The first modification would have been to collect data on student use of the SGS behaviors during the instructional phase and to continue that phase until participants showed a stable increase in the number of SGS behaviors used per class. Establishment of a stable increase in behaviors would have allowed for a more thorough examination of the relationship between the SGS and TS behaviors. A second modification would have been to build in time for the investigation of this relationship (e.g. 6 observations) before evaluating the presence of a functional relation between changes in TS behaviors and changes in student levels of academic engagement. The third modification would be to begin the study earlier in the school year. Allowing more time for students to demonstrate stable patterns

of responding during the SGS instruction and post-instruction phases, would enable clearer interpretations of hypothesized functional relations.

A second limitation of this study was participant selection. For inclusion in the study participants had to meet three requirements: 1) enrollment in an Academic Strategies class, 2) teacher perception of regular attendance, and 3) completion of the consent process. These criteria allowed the inclusion of Carl and Elvin, who despite their enrollment in Academic Strategies showed no indicators of being at risk for academic failure. Both students were on track to graduate and had cumulative high school grade point averages above 3.0 on a 4-point scale. Carl and Elvin were included in the present study because other candidates failed to complete the consent process. Appropriate students for future investigations should exhibit the following characteristics: a) be enrolled in Academic Strategies, b) be receiving a grade of D or F in at least one class, c) find teacher attention reinforcing, d) show low levels of at least four of the SGS target behaviors and e) attend at least 85% of scheduled classes.

A third limitation was the methods used for data collection. Given the anticipated difficulties in observing the full duration of the 80-85 minute class periods, teacher and student reports were collected to supplement direct observation data. However, as a result of the WH and EL classes following an idiosyncratic class schedule, these sources of data were often not collected on the same days. A better method would have been to either rely solely on direct observation data, which would necessitate data collectors remaining in classes for the duration of the period, or scheduling direct observation, teacher, and student report data to occur during the same class periods. A related limitation was the lack of student and teacher report data. David submitted zero student

reports during baseline which prevented a comparison to his self-report data during intervention. There was also variability observed in the rates in which teachers reported data. They were asked to complete teacher surveys twice per week, but one teacher regularly failed to meet this expectation throughout the study despite researcher prompts.

A final limitation of this study was the limited participation of the high school teachers. After student participants were selected all of their core-content (i.e. History, Literature, Math) teachers were asked to participate in the study. Most declined, citing a lack of time to complete student surveys. Although survey completion typically required less than five minutes of a teacher's time per week, it was still perceived as an additional, non-preferred task. As a result, data were only collected in a maximum of two classes per student. Future investigations should observe students across all their core-content classes to evaluate any course specific predictors of student and teacher behavior.

Implications of Practice and Future Research

This study documented a functional relation between participation in the SGS curriculum and improved student rates of the request for feedback behavior. A functional relation between student demonstration of this request behavior and teacher feedback was also found. This study failed to establish the remaining functional relations hypothesized by the research questions. Despite this failure there was evidence that students could reliably elicit supportive teacher behaviors by utilizing a small set of prompts. While this study does not provide strong support for changes in practice, it does suggest that further research is warranted.

Given the promising results of this pilot investigation the logical next step would be to conduct a new study of the SGS curriculum. The findings of the current study

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provide some support for the underlying logic of the investigation. Implementing the recommended modifications to participant selection, structure of phases, and data collection methods would allow for a clearer evaluation of proposed functional relations. This new study would include a minimum of eight students sequenced into four cohorts with two students each. This design would continue to meet the minimum requirements for evaluation a functional relation (i.e. three demonstrations of effect at three points in time) despite some student attrition or missing data. The students would be selected using the revised criteria for participation, namely: a) be enrolled in Academic Strategies, b) be receiving a grade of D or F in at least one class, c) find teacher attention reinforcing, d) show low levels of at least four of the SGS target behaviors and e) attend at least 85% of scheduled classes. Such selection procedures would allow for a more effective evaluation of the effects of SGS instruction on student use of the SGS behaviors. The next change would be to identify students at the beginning of the school year and observe them in at least three classes. Early identification would allow for more time to extend phases and evaluate the proposed reciprocal effects posited by the creation of a constructive cycle of support. Baseline observations would continue until a cohort had displayed a stable pattern of responding in at least three of the SGS behaviors. Observation in additional classrooms would allow for evaluation of generalization effects of student use of the SGS behaviors in non-trained settings. The AS class would be the site of initial SGS training over the first week of the instructional phase. The subsequent week(s) would be dedicated to in-vivo training in one target classroom. Extending the SGS-instruction phase would allow for student behaviors to come under stimulus control in the training classroom. Stable increases in student use of a minimum of 3 SGS

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behaviors would signal the phase change to post-SGS instruction. Teacher and student

report data could continue to be collected in this next study however direct observations

would continue to be the primary means of data collection. Observers would remain in

the target classrooms from five minutes before the scheduled start of the period to five

minutes after the end of the period to increase the likelihood that they observed greeting

and feedback behaviors. Observations of academic engagement would continue to last

for 20 minutes during each observed class period. Teacher and student reports would

also be scheduled to occur on the same days as direct observation so that comparisons

between sources of data could be made. Composite data of other students in the class

would also be collected to allow comparison of target student behavior to "typical"

student behavior. The follow-up sessions would continue to occur weekly after SGS

instruction. Finally, compensation for teacher participation would be increased in an

effort to recruit the desired three target teachers per student. The results of this proposed

study would shape the subsequent research agenda, however a description of additional

studies follows.

A future investigation would evaluate the effects of a revised SGS curriculum.

Results of the present study showed that there was a high conditional probability that

teachers would respond appropriately to student prompts. They also showed that teachers

engaged in the TS behaviors to a lesser degree when not prompted. One possible

alteration to the curriculum would be to focus solely on student behaviors that reliably

elicit TS behaviors. This would result in the removal of the acknowledgement and

engaging question behaviors while adding a prompt for the advanced notice teacher

behavior.   Such a change would again improve our ability to identify a potential functional relation between the SGS and TS behaviors.

An additional task in a program of research would be to query high school teachers in an effort to create a list of preferred and non-preferred student behaviors. Similar efforts have been made with elementary school teachers (Lane, Givner, & Pierson, 2004; Walker, Irvin, Noell, & Singer, 1992) and with social skills across the grade span (Lane, Pierson, & Givner, 2004; Lane, Wehby, & Cooley, 2006). Identified skills and behaviors could be evaluated empirically, with results then used to inform additional changes to the SGS curriculum or Academic Strategies.

Once the SGS curriculum is finalized it would be important to implement it with a wide variety of students in different settings to investigate any student or context related effects on student or teacher responsiveness. Student and teacher needs vary across classrooms and schools. Effective interventions are those that are technically adequate and meet the specific needs of its target population. Continued research would shed light on what skills are most and least valuable, to what students, under which conditions.

Conclusion

This study sought to evaluate the effect of participation in the SGS curriculum on student behavior. Changes in student behavior were posited to initiate a constructive cycle of support in which increased student use of the SGS behaviors would elicit increased teacher demonstration of the TS behaviors. This relationship was hypothesized to be reciprocal in that increased demonstration of TS behaviors would reinforce student use of the SGS behaviors thereby continuing the cycle. This constructive cycle was then hypothesized to result in increased levels of student academic engagement.

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Results of the study provide evidence of a functional relation between participation in the SGS curriculum and increased student use of requests for teacher feedback. They also provide evidence of a functional relation between student requests for feedback and teacher provision of feedback. While this study does not provide evidence of the establishment of constructive cycles of support it does offer the following: a) high school teachers typically engaged in low levels of the identified support behaviors, and b) students were able to reliably elicit these supportive behaviors by engaging in relatively simple prompting behaviors. This is an important finding because it suggests that teaching high school students to prompt teacher behavior may be a viable approach to increasing the likelihood that students receive additional supports. To strengthen this argument a much clearer demonstration of the effects of SGS instruction on student behavior needs to take place. Results of this pilot investigation seem to support the logic of teaching students socially appropriate means of accessing supportive teacher behavior. Implementing the aforementioned changes to student selection, data collection, and research design would allow for a better evaluation of the functional relation between student use of the SGS behaviors and teacher demonstration of the targeted TS behaviors. The findings presented here serve as a first step to the development of effective instruction to teach students to reliably recruit needed supports.

STUDENT CONSENT FORM

University of Oregon Consent Form
University of Oregon Department of Special Education
Informed Consent for Participation as a Subject in The Student-Guided
Supports Curriculum
Investigator: Christopher Pinkney
Combined Older Child (12-17 years) Consent/Assent Form

Introduction
- You are being asked to be in a research study evaluating the effects of the Student-Guided Supports (SGS) curriculum; a sequence of five lessons designed to teach students simple skills for obtaining academic and social supports from teachers.
- You were selected as a possible participant because you are enrolled in Academic Strategies and you may benefit from participation in this study.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study:
- The purpose of this study is to evaluate the effects of the Student-Guided Supports curriculum.
- Participants in this study are from Eugene, OR. The total number of subjects is expected to be 9.

Description of the Study Procedures:
- If you agree to be in this study, we would ask you to do the following things:
  a) Participate in the Student Guided supports curriculum. The curriculum consists of five 30-minutes lessons that will take place during your regularly scheduled Academic Strategies class and should be completed within 2-weeks.
  b) Attempt to use the skills taught during the Student-Guided Supports curriculum in your classes
  c) Complete a short survey once or twice per week consisting of 5 questions.
  d) Meet with the primary investigator once per week for a maximum of 15-minutes to discuss the use of the SGS skills and to hand in turn in student surveys. These meetings may last between 4-18 weeks depending upon when you begin the curriculum's lessons.
  e) Agree to be observed in one of your content area classes (e.g. math, science, English) for the duration of the study (i.e. 20 weeks).

Risks/Discomforts of Being in the Study:
- The study has the following risk: You may be embarrassed while being observed in class. To minimize this risk: Observers will be as discrete as possible by sitting in the back of the classroom (when possible) and avoiding direct eye with you. If observers are asked why they are in the classroom they will respond that they are observing the

teacher.

Benefits of Being in the Study:
- The purpose of the study is to teach you five simple skills that will help you get the help you need from your teachers.
- The benefits of participation are potential improvement in the quality and frequency of the academic and social supports you receive in school which may contribute to improved grades and fewer discipline contacts.

Payments:
- You will receive the following reimbursement: A $10 gift certificate to a local eating establishment or retail store upon completion of the SGS curriculum. Another $20 gift certificate will be given to students that complete the classroom observations.

Costs:
- There is no cost to you to participate in this research study.

Confidentiality:
- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password protected file.
- Access to the records will be limited to the researchers; however, please note that regulatory agencies, and the Institutional Review Board and internal University of Oregon auditors may review the research records.

Voluntary Participation/Withdrawal:
- Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the University.
- You are free to withdraw at any time, for whatever reason.
- There is no penalty or loss of benefits for not taking part or for stopping your participation.

Contacts and Questions:
- The researcher conducting this study is Christopher Pinkney. For questions or more information concerning this research you may contact him at 541-968-5909.
- If you believe you may have suffered a research related injury, contact Christopher Pinkney at 541-968-5909 who will give you further instructions.
- If you have any questions about your rights as a research subject, you may contact: the Office for Protection of Human Subjects, University of Oregon at (541-346-2510) or human_subjects@uoregon.edu

Copy of Consent Form:
- You will be given a copy of this form to keep for your records and future reference.

Statement of Consent:

- I have read (or have had read to me) the contents of this consent form and have been encouraged to ask questions. I have received answers to my questions. I give my consent for my child to participate in this study. I have received (or will receive) a copy of this form.

Signatures/Dates

Study Participant (Print Name):

Participant or Legal Representative Signature :

Date:

Study Participant (Print Name) :

Parent/Guardian (Print Name):

Parent/Guardian (Signature):

Date:

PARENT CONSENT FORM

**University of Oregon Department of Special Education
Informed Consent for Participation in The Student-Guided Supports
Curriculum
Investigator: Christopher Pinkney
Parent Permission Form**

Introduction
- You are being asked to permit your child to be in a research study of the effects of the Student-Guided Supports (SGS) curriculum; a sequence of five lessons designed to teach students simple skills for obtaining academic and social supports from teachers.
- Your child was selected as a possible participant because she/he enrolled in Academic Strategies and may benefit from participation in this study
- We ask that you read this form and ask any questions that you may have before agreeing to allow your child to be in the study.

Purpose of Study:
- The purpose of this study is to evaluate the effects of the Student-Guided Supports curriculum.
- Participants in this study are from Eugene, OR. The total number of student participants is expected to be 9.

Description of the Study Procedures:
- If you permit your child to be in this study, we would ask she/he to do the following things:
  - f) Participate in the Student Guided supports curriculum. The curriculum consists of five 30-minutes lessons that will take place during your child's regularly scheduled Academic Strategies class and should be completed within 2-weeks.
  - g) Attempt to use the skills taught during the Student-Guided Supports curriculum in their content-area classes
  - h) Complete a short survey 2-3 times per week consisting of 7 questions.
  - i) Meet with the primary investigator once per week for a maximum of 15-minutes to discuss the use of the SGS skills and to hand in turn in student surveys. These meetings may last between 4-18 weeks depending upon when your child begins the curriculum's lessons.
  - e) Agree to be observed in one of her/his content area classes (e.g. math, science, English) for the duration of the study (i.e. 20 weeks).

Risks/Discomforts of Being in the Study:
- The study has the following risk: Your child may become embarrassed while being observed in class. To minimize this risk: Observers will be as discrete as possible by sitting in the back of the classroom (when possible) and avoiding

direct eye with your child. If observers are asked why they are in the classroom they will respond that they are observing the teacher.

Benefits of Being in the Study:
- The purpose of the study is to teach your child five simple skills that will help your child get the help they need from their teachers.
- The benefits of participation are potential improvement in the quality and frequency of the academic and social supports your child receives in school which may contribute to improvement in their grades and fewer discipline contacts.

Payments:
- Your child will receive the following reimbursement: A $20 gift certificate to a local retailer upon successful completion of the SGS curriculum.
- Another $30 gift certificate will be awarded to students that regularly complete the student surveys and are present for 85% or more of classroom observations.
- There is no reimbursement for permitting your child to participate.

Costs:
- There is no cost to you or your child to participate in this research study.

Confidentiality:
- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password protected file.
- Access to the records will be limited to the researchers; however, please note that regulatory agencies, and the Institutional Review Board and internal University of Oregon auditors may review the research records.

Voluntary Participation/Withdrawal:
- Your child's participation is voluntary. If you choose not to have your child participate, it will not affect you or your child's current or future relations with the University.
- You are free to withdraw to withdraw your child at any time, for whatever reason.
- There is no penalty or loss of benefits for not taking part or for stopping your child's participation.
-

Contacts and Questions:
- The researcher conducting this study is Christopher Pinkney. For questions or more information concerning this research you may contact him at 541-968-5909.
- If you have any questions about your rights as a research subject, you may contact: the Office for Protection of Human Subjects, University of Oregon at (541-346-2510) or human_subjects@uoregon.edu

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- You will be given a copy of this form to keep for your records and future

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Signatures/Dates
Study Participant (Print Name) :

Parent/Guardian (Print Name):

Parent/Guardian (Signature):

Date:

TEACHER CONSENT FORM

University of Oregon Department of Special Education
Informed Consent for Participation in The Student-Guided Supports
Curriculum
Investigator: Christopher Pinkney
Teacher Consent Form

Introduction
- You are being asked to be in a research study of the effects of the Student-Guided Supports (SGS) curriculum; a sequence of five lessons designed to teach students simple skills for obtaining academic and social supports from teachers.
- You were selected as a participant because you teach at least one student participant in the study.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study:
- The purpose of this study is to evaluate the effects of the Student-Guided Supports curriculum.
- Participants in this study are from Eugene, OR. The total number of teacher participants is expected to be 4.

Description of the Study Procedures:
- If you agree to be in this study, we would ask you to do the following things:
  1) Complete a short survey (takes approximately 1-2 minutes) 2-3 times per week for a maximum of 2 students. Surveys will need to be completed for a maximum of 20 weeks.
  2) Allow 1-2 members of the research team to observe you classes.
  3) Attempt to reinforce initial student attempts at using the SGS target behaviors (i.e. teacher greeting, appropriately requesting teacher support, asking at least one pertinent question about the classroom content, acknowledging teacher support, and recruiting end of class feedback from the teacher).

Risks/Discomforts of Being in the Study:
- There are no reasonable, foreseeable or expected risks. This study may include risks that are unknown at this time.

Benefits of Being in the Study:
- The purpose of the study is to teach 5 simple skills that will help your student get the help she/he needs from you and other teachers in an appropriate manner.
- The benefits of participation are potential improvement in rapport with, and increased acknowledgement of your supportive efforts from, the student participants in the study.

Payments:
- You will receive the following reimbursement for participation in the study: A $25 gift certificate to a local retailer.

Costs:
- There is no cost to you to participate in this research study.

Confidentiality:
- The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file.
- All electronic information will be coded and secured using a password protected file.
- Access to the records will be limited to the researchers; however, please note that regulatory agencies, and the Institutional Review Board and internal University of Oregon auditors may review the research records.

Voluntary Participation/Withdrawal:
- Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the University.
- You are free to withdraw at any time, for whatever reason.
- There is no penalty or loss of benefits for not taking part or for stopping your participation.
-

Contacts and Questions:
- The researcher conducting this study is Christopher Pinkney. For questions or more information concerning this research you may contact him at 541-968-5909.
- If you have any questions about your rights as a research subject, you may contact: the Office for Protection of Human Subjects, University of Oregon at (541-346-2510) or human_subjects@uoregon.edu

Copy of Consent Form:
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Signatures/Dates

APPENDIX D

STUDENT SURVEY

Student-Guided Supports: Student Survey

Number:

Date:

Directions: Please circle your chosen response for each item

1) Please rate your effort in class today

1	2	3	4	5
Very Poor		Average		Excellent

2) How many times did you receive individual help from the teacher?

1	2	3	4	5
None	Once	Twice	Three	Four or more

3) Did you greet the teacher today?

Yes   No

4) Did you ask an appropriate question?

Yes   No

5) Did you ask for help today?

Yes   No

6) Did you thank the teacher at least 2 times for his/her help?

Yes   No

7) Did you ask the teacher how you did in class today?

Yes   No

APPENDIX E

TEACHER SURVEY

Student-Guided Supports: Teacher Survey

Student Number: Teacher

Initials:

Class Period: Date:

Directions: Please circle your selected response for each item

1) How much support did you provide the target student today?

1	2	3	4	5
Less than others		The same as others		More than others

2) How engaged was the student in today's class?

1	2	3	4	5
Not Engaged		Somewhat Engaged		Very Engaged

3) Did the student greet you today

   Yes   No

4) Did the student ask for help appropriately today?

   Yes   No

5) Did the student ask an appropriate question?

   Yes   No

6) Did the student thank you for any help you provided?

   Yes   No

7) Did the student ask how he/she did in class?

Yes   No

APPENDIX F

TEACHER PERCEPTION SURVEY

1) In your opinion are the target behaviors in this study important for high school

   students?

   Yes   No

2) What additional skills would you like to see added to the SGS Curriculum?

3) Do you believe we can successfully teach high school students to more effectively

   recruit and reinforce supportive teacher behaviors?

   Yes   No

STUDENT PERCEPTION SURVEY

Directions: Please answer each of the following items

1) Please rank the 5 behaviors from easiest (1) to hardest (5)

Behavior	Rank (1-5)
Teacher greeting	
Asking "good" questions	
Asking for help appropriately	
Saying "thank you"	
Asking how you did in class	

2) Please rank the 5 behaviors from least (1) to most helpful (5)

Behavior	Rank (1-5)
Teacher greeting	
Asking "good" questions	
Asking for help appropriately	
Saying "thank you"	
Asking how you did in class	

3) Do you think using the behaviors increased the help you received from teachers?

            Yes   No

4) Do you think receiving help from the teacher helps you complete your assignments?

            Yes   No

SGS CURRICULUM

Lesson 1: Introduction

Objective: To introduce concept of "teacher credits"

Goals:

1. Students will identify at least 4 things teachers do for students
2. Students will identify at least four behaviors that earn "teacher credits" and four behaviors that spend "teacher credits".
3. Students will identify when, where, how, and why they should greet their teachers

Materials:

1. A cereal bowl or similarly sized open vessel
2. Twenty pennies
3. Worksheets 1A and 1B

Introduction:

"Today we are going to talk about something called 'teacher credits'."

"Teacher credits are like money in that you can earn them by doing certain things, while you can spend them by doing others."

"Having positive interactions with the teacher earn credits, while asking for help or making poor decisions spends teacher credits."

Activity 1 (bowl and pennies):

(Provide examples of behaviors that earn teacher credits and spend them. Each time you state an "earning" behavior add coins to the bowl, and take coins out of the bowl for each "spending" behavior. Attempt to leave coins in the bowl at the end of the activity.)

Behaviors That Earn Teacher Credits	Behaviors that Spend Teacher Credits
Greeting the teacher	Asking for help (emphasize that this is not a bad thing)
Paying attention during the lessons	Ignoring the teacher

Showing that you care about school	Talking while the teacher is speaking
Saying thank you for any help you receive	Distracting your peers
Listening carefully while receiving help	

(Allow students to provide examples of both types of behaviors. Students will complete a worksheet later.)

"When you need help from a teacher, it is important that you have earned enough teacher credits so that your teachers will help you whenever you need it."

Activity 2 (Worksheet 1A):

"We're going to complete a worksheet in which we list many of the ways in which teachers help students."

"What are some ways in which teachers help students?"

(Give each student multiple opportunities to respond. If no responses provide examples as needed until students provide at least 4 novel answers)

Rationale:

"Think about times when you have helped others; your friends, siblings, parents."

"What are some things that made you to help them?"

(Examples: They are nice to me. They have helped me in the past. They asked nicely)

"What are some things that made you want to help them a second time?"

(Examples: They said thank you. They paid me. They really appreciated my help.)

"Would you rather help someone you know and that you have had positive interactions with, or someone that does not appreciate your help or ignores you?"

"So how you interact with others, including teachers, affects how much they are willing to help you."

Lesson:

"Can we all agree that students sometimes need teachers, and how you interact with teachers may affect their willingness to help you?"

(If students respond no, provide more examples from the Introduction and Rationale sections)

"Now let's think about behavior we usually see in class. We're going to complete a list of behaviors that earn teacher credits and behaviors that spend teacher credits. Think back to our activity with the pennies if you need help."

Activity 3 (Worksheet 1B):

(Complete worksheet with students. Students should provide at least four examples of each type of behavior)

"Now let's practice a behavior that is simple to do and will earn you teacher credits."

"One of the easiest things you can do is say hello to the teacher when you enter the classroom."

"What are some different, appropriate ways to say hello to your teacher?"

(Allow each student to provide at least two appropriate examples)

"To make sure you earn the most credits possible it is important that you remember a few things."

"Say hello as soon as you enter the class or as soon as the teacher enters the class."

"Also say hello to your teachers if you see them at school, even if you are not going to their class"

"Make sure that you say something appropriate and that the teacher hears you."

"Finally, say hello to your teachers in order to earn teacher credits (increase the likelihood they will help you when you need it)."

Review:

"What is a teacher credit?"

"Why is it important?"

"Does the way you interact with teachers affect how much they are willing to help you?"

"Give me one example of how teachers help students"

"When should you greet teachers?"

(Repeat question substituting where, why, and how)

(If students are unable to answer, have them quickly look over their worksheets to find appropriate responses)

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Next Lesson:

Tomorrow we are going to discuss how asking questions can earn teacher credits

Today's Goal:

"Today's goal is to greet each of your teachers when you enter class today.

Lesson 2: Asking Questions

Objective: Teach students how to use questions to earn "teacher credits".

Goals:

1. Students will describe why, when, and how to ask "good" questions
2. Student will demonstrate asking two "good" questions

Materials:

1. Worksheets 2A and 2B
2. A cereal bowl or similarly sized open vessel
3. Twenty pennies

Review:

(Have the students take out their completed copies of worksheets 1A and 1B)

"In our last lesson we talked about teacher credits."

"What are teacher credits?"

(If students do not respond, tell them teacher credits are things we earn through positive interactions with teachers and spend when we need help or make poor choices in class)

"Why are they important?"

(Example: They make it more likely that teachers will help you when you need it)

(Add and subtract pennies to and from the bowl while reviewing the next two questions)

"What are some things that earn teacher credits?"

(Direct students to their completed copy of worksheet 1B if they fail to respond)

"What are some things that spend teacher credits?"

(Direct students to their completed copy of worksheet 1B if they fail to respond)

"We also talked about one simple thing that could earn teacher credits"

"Who remembers what that was?"

(Greeting the teacher)

"When should you greet teachers?"

(Repeat question substituting where, why, and how)

Introduction:

"Today we are going to talk about how asking questions can earn teacher credits."

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"There are a lot of different types of questions, but today we are going to focus on those that show you have been paying attention and that get the teacher talking."

"Despite what you might sometimes think, teachers are people to and they respond to how you treat them. If you show them you care about their lessons (earning teacher credits) they will more likely provide the help you need, but if you pay little attention and don't appear to try (spending teacher credits) teachers will be less likely to help you."

Rationale:

"Asking 'good' questions is a great way to get teachers to help you. Asking questions shows that you are interested in what they have to teach, which is really what teachers are looking for."

"Have you ever tried teaching someone something?"

(Provide examples of teaching friends, siblings, parents, etc.)

"What are some things they did that made you want to help them?"

(Examples: eye contact, smiling, trying hard, paying attention)

"What are some things they did that made you want to stop teaching them?"

(Examples: looked out the window, argued with you, didn't pay attention, said mean things)

Lesson:

"There are at least four reasons why you should ask "good" questions in class:

1. Shows that you are paying attention today
2. Shows that you were paying attention yesterday
3. Shows that you are interested in the lesson
4. Earns "teacher credits" that you will use later"

"Why should you ask 'good' questions in class?"

(Review until each student can provide the four reasons)

"There are several aspects of a 'good' question. First, the question needs to be on topic. Second it should also do at least one of the following:

1. Connects today's lesson with yesterday's lesson
2. Allows you to connect a lesson to your personal life
3. Encourages the teacher to connect a lesson to your personal life"

(Model at least one example of each, beginning with a statement and ending with the question)

"What makes a 'good' question?"

(Review until students say each of the aspects of a "good" question)

(Give each student a copy of worksheet 2A to keep)

"You should ask 'good' questions while the teacher is in the front of the class giving a lesson, or during breaks."

"When should you ask "good" questions?"

(If students do not respond, restate when they should ask questions)

"A 'good' question starts with a brief statement of something that you have recently learned."

(Example: I know Great Britain had the strongest military prior to WWI…)

(If possible select examples related to students' current classroom instruction)

"Let's practice the statement portion of a 'good' question"

(Continue until each student has demonstrated two appropriate statements)

(If students are unable to respond appropriately, provide additional examples)

"The second portion of a 'good' question brings up something new, but related."

(Example (continued from statement): …so why would Germany challenge them at sea?"

(Provide examples that relate to statement examples used previously)

"Let's practice the second portion of a 'good' question"

(Prompt students to complete the statements they developed previously. Continue until each student has made at least two appropriate demonstrations)

"Now let's put both parts together"

(Prompt students to develop at least one novel question)

Review:

Activity 1 (Worksheet 2B)

"Why should you ask 'good' questions?"

(If students are unable to respond, prompt them to look at worksheet 2A)

"In your own words, complete the top portion of the worksheet."

(Review the rest of worksheet 2B)

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"Please turn your worksheets over so that you cannot read them."

"When should you ask a 'good' question?"

"How should you ask a 'good' question?"

(Allow students to briefly review worksheets if they are unable to respond appropriately)

"Now each of you demonstrate asking a 'good' question"

Next Lesson:

"Tomorrow we will review what to do when you ask for help"

Today's Goal:

"Today's goal is to greet each of your teachers when you enter their class today, and ask at least one 'good' question."

Lesson 3: Asking for Help

Objective: Teach students the three B's of asking for help

Goals:

Students will be able to name and describe the three Be's of asking for help

Materials:

Worksheet 3

Review:

(Prompt students to take out prior worksheets)

"Over the last two days we have talked about earning teacher credits"

"What are teacher credits?"

(If students do not respond, tell them teacher credits are things we earn through positive interactions with teachers and spend when we need help or make poor choices in class)

"Why are they important?"

(Example: They make it more likely that teachers will help you when you need it)

"We reviewed two things that you can do in class to earn these credits. What are they?"

(Prompt students if necessary. Greetings and asking 'good' questions)

"Why should you greet teachers?"

(Examples: Start class off right, let teachers know you're in school, earn teacher credits)

"Give me an example of a 'good' question. Remember to start with a statement of what you already know and finish with a related question."

(Allow each student to ask at least one question. Prompt as necessary)

Introduction:

"Today we are going to discuss spending teacher credits"

"Although asking for help does cost teacher credits, it is something you should do as often as you need to in order to be successful."

Rationale:

"This lesson will focus on how to ask for help in a way that decreases the amount of teacher credits you spend. Think of this lesson as teaching you a way to get help at half the cost."

"By asking for help appropriately, you increase the chances that your teachers will help you quickly and often."

Lesson:

"There are three Be's to asking for help."

"The first Be is to be sure that you need help."

"What is the first Be?"

(Prompt as necessary)

"You are sure that you need help when you have done the following:
1. Listened carefully to teacher instructions
2. Read the directions completely
3. Quietly asked a nearby neighbor for the directions
4. Quickly checked your notebook for information"

"How can you be sure that you need to ask the teacher for help?"

(Prompt as necessary until each student can identify the steps)

"Should you ask for help without reviewing the directions?"

(If students respond yes, repeat previous section)

"The second Be is to be early when asking for help."

"What is the second Be?"

(Prompt as necessary until each student can identify the second Be)

"Once you understand the directions you should do the following:
1. Think of any problems you might have with the task or assignment
2. Ask for help early enough to give your teacher time to help, and
3. Complete any work that you can while waiting for help

"What should you do to be early when asking for help?"

(Prompt as necessary until each student can identify the steps)

(Provide positive and negative examples of asking early for help)

"Should you ask for help at the last minute before an assignment or task is due?"

(If students respond yes, acknowledge that they may need to do so, but also restate that the goal is to ask early)

"What is the first Be of asking for help? What is the second?"

(Restate if students are unable to respond)

"The third Be is be specific."

"What's the third Be?"

(Prompt as necessary until each student can identify the second Be)

"You know you when you are being specific when the teacher does not have ask you 'what' your problem is, or 'where' the problem is."

(Model examples of vague requests that require the teacher to ask multiple questions of the student before providing help)

"How do you know when you have been specific when asking for help?"

(Example: The teacher does not have to ask a lot of questions to help)

(Prompt students as necessary)

"When asking for help you should state your problem and point to the area of the page, if appropriate, that the problem is located."

"What are the two things you should do when you ask for help?"

(Prompt as necessary until each student can identify the two steps)

Review:

(Hand out worksheet 3 to each student)

"What are the three Be's of asking for help?"

(Prompt students to use worksheet 3 If they are unable to respond)

"Now turn over worksheet 3 so that you cannot read it."

(Students must answer the following questions without prompts. If students are unable to answer, allow them to review worksheet 3 and reassess in a few minutes)

"How can you be sure that you need to ask the teacher for help?"

"What should you do to be early when asking for help?"

"How can you be specific when asking for help?"

(Note. Some students may need guided practice in using this skill. For these students provide a worksheet that includes directions and a set of math problems

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above the students' ability. Prompt students to use each of the three Be's while asking you for help)

Next Lesson:

"Tomorrow we are going to discuss saying 'thank you'"

Today's Goal:

"Today's goal is to ask for help appropriately at least once in each class if you need help. You should also continue to greet your teacher and ask at least two 'good' questions in each class today."

Lesson 4: Acknowledgement

Objective: To teach students why saying "thank you" will help them in school

Goals:

1. Students will identify why, when, and how to acknowledge teachers
2. Students will identify what to do and not to do when receiving help

Materials:

Worksheets 4A and 4B

Review:

(Prompt students to take out prior worksheets)

"Over the last three days we have talked about earning teacher credits"

"What are teacher credits?"

(If students do not respond, tell them teacher credits are things we earn through positive interactions with teachers and spend when we need help or make poor choices in class)

"Why are they important?"

(Example: They make it more likely that teachers will help you when you need it)

"We reviewed two things that you can do in class to earn these credits. What are they?"

(Prompt students if necessary. Greetings and asking 'good' questions)

"Why should you greet teachers?"

(Examples: Start class off right, let teachers know you're in school, earn teacher credits)

"Give me an example of a 'good' question. Remember to start with a statement of what you already know and finish with a related question."

(Allow each student to ask at least one question. Prompt as necessary)

"What are the three Be's of asking for help?"

(Prompt students to review worksheet 3 if necessary)

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"Each of you give me an example of being specific when asking for help."

Introduction:

"Today we are going to work on two simple skills, saying 'thank you' and how to act when receiving help from the teacher"

"Let me hear each of you say 'thank you'"

(Allow each student to respond)

"Now that was easy"

Rationale:

"The reason why you should say thank you is that it increases the chance that teachers will do things for you in the future."

"How do you feel when someone tells you 'thank you' for your help? Do you feel more or less like helping her again?"

(Allow each student to respond)

Lesson:

"Whenever a teacher does something for you, you should say 'thank you'"

"If a teacher helps you or your group, say 'thank you'"

"If a teacher hands you a worksheet or a book, say 'thank you'"

"If a teacher checks your progress, say 'thank you' for checking on me"

"Each of you please give me an example of when you can say 'thank you' to your teachers"

(Each student should provide at least 2 examples)

"Now some of you might worry that saying 'thank you' over and over again might become annoying. The truth is, you should change the ways in which you say 'thank you'"

"What are other appropriate ways to say 'thank you'"

(Example: thanks, I appreciate your help, or that was helpful)

(Allow students to respond, correct any examples that may be inappropriate in a classroom)

Activity 1 (Worksheet 4A):

"Let's complete this worksheet together."

(Prompt students as necessary to complete worksheet)

Lesson (part 2):

"Yesterday we talked about how to ask for help. Today we are going to go over what to do while you're receiving help."

"The first thing that you need to do is pay careful attention. This means that you are looking at the teacher or your work and you are not looking around the room, listening to music, or looking in your bag."

"What should you be looking at while receiving help?"

(Restate answer if students are unable to respond)

"The second thing that you should do is show that you are listening. You can do this by nodding your head, and/or making short statements like 'yes', 'okay', or 'I understand'."

"Tell me at least one way you can show the teacher that you are listening."

(Prompt as necessary)

"The final thing you should do is think about whether the teacher helped you with your problem before you let her walk away. Being sure and specific when asking for help makes this easier, as you should have a good idea of the help you need before asking."

"If a teacher does not provide the help you need, say 'thank you', but state that you still need help and restate your problem."

"What should you do before you let the teacher walk away?"

(Prompt as necessary)

Review:

Activity 2 (Worksheet 4B):

"Let's complete this list of things to do and things not to do while receiving help."

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(Provide one example of each, and then allow students to provide remaining examples)

(Prompt as necessary)

"Please turn your worksheets over so that you cannot read them."

(Students should answer the following questions and prompts independently. If they do not reteach appropriate parts of the lesson)

"Why should you say 'thank you''

(Repeat question with "when" and "how")

"Name three things you should do while receiving help?"

"Name three things you should not do while receiving help?"

Next Lesson:

"Tomorrow is our last lesson. We will talk about what you should do at the end of each class."

Today's Goal:

"Today's goal is to say 'thank' to your teachers at least 4 times in each of your remaining periods. Also remember to greet your teachers when you walk into the classroom, ask at least 2 'good' questions, and ask for help appropriately if you need it."

Objective: Teach students how to ask for teacher feedback

Goals:

Students will identify why, when, and how to ask for teacher feedback.

Materials:

Worksheet 5

Review:

(Prompt students to take out prior worksheets)

"Over the last four days we have talked about earning teacher credits"

"What are teacher credits?"

(If students do not respond, tell them teacher credits are things we earn through positive interactions with teachers and spend when we need help or make poor choices in class)

"Why are they important?"

(Example: They make it more likely that teachers will help you when you need it)

"Why should you greet teachers?"

(Examples: Start class off right, let teachers know you're in school, earn teacher credits)

"Give me an example of a 'good' question. Remember to start with a statement of what you already know and finish with a related question."

(Allow each student to ask at least one question. Prompt as necessary)

"What are the three Be's of asking for help?"

(Prompt students to review worksheet 3 if necessary)

"Please give me an example of being specific when asking for help."

"Tell me two things you should do when receiving help"

(Prompt students to review worksheet 4B if necessary)

"Now tell me two things that you should not do"

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(Prompt students to review worksheet 4B if necessary)

"Finally, why should you say 'thank you' to teachers?"

(Prompt students to review worksheet 4A if necessary)

Introduction:

"Today we are going to talk about what you should do at the end of class."

"Before leaving class you should ask the teacher 'how did I do'."

Rationale:

"The reason for asking how you did in class is similar to the reasons for using the other skills we've learned this week. You do it to earn additional teacher credits by showing the teacher that you care about your classroom performance."

Lesson:

"Today's lesson is the simplest one of all. With 10 minutes or less left at the end of the class go up to your teacher and ask 'how did I do in class today'."

"Your teacher has been told that you will begin asking them this question, so do not worry about them not understanding the question."

"Now let's practice."

(Allow each student to respond. Students may ask for feedback in their own words as long as the intent is clear and classroom appropriate.)

"If you feel uncomfortable about walking up to the teacher, you can work out a signal for the teacher to let you know how you did."

"We can meet with your teachers together if you think it will help."

Review:

Activity 1 (worksheet 5):

(Allow students to complete/review the worksheet independently)

(If students cannot complete the worksheet restate rationale)

(Have students turn over worksheet 5 so that they cannot read it)

"Why should you ask how you did in class?

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(Repeat question with "when" and "how")

Today's Goal:

"Today's goal is to use each of the skills we have practiced this week in your remaining classes. You should greet each teacher, ask at least one 'good' question in each class, say 'thank you' at least twice each period, ask for help if you need it, and ask 'how you did' at the end of each class."

Wrap up:

"Now that we have completed the lessons, your job is to simply use the skills. We will meet briefly each week to check your progress. I will show you the results of your student surveys as well as feedback submitted to me by your teachers."

(Provide students the opportunity to ask any lingering questions)

Lesson 1: Introduction (1A)

Things that teachers do for you

Lesson 1: Introduction (1B)

+ Things that earn "teacher credits"	**-** Things that spend "teacher credits"

Why Ask "Good" Questions?

1) Shows that you are paying attention today

2) Shows that were paying attention yesterday

3) Shows that you are interested in lesson

4) Earns "teacher credits" that you will use later

What Makes a "Good" Question?

1) Is on topic

2) Connects today's lesson with yesterday's lesson

3) Allows <u>you</u> to connect lesson to your personal life

4) Encourages the teacher to connect lesson to your personal life

Asking Questions

Why?

_____

_____

_____

_____

When?

Ask questions when the teacher is in front of the class giving the lesson

How?

1) Raise hand
2) Start by saying something you have learned
    a. Example "I know Germany was in competition with Great Britain to have the strongest navy…
3) Finish with your (related) question
    a. Example "but how did Italy compare?"

Things to **Be** When Asking for Help

Be Sure

Be Early

Be Specific

Be Sure

       Listen carefully to teacher instructions
       Read the directions completely
       Quietly ask a nearby student for directions
       Quickly check your notebook for information (e.g. prior lessons/activities)

Be Early

Once you understand the directions:
       Think of any problems you might have with the task/assignment
       Ask for help early enough to give the teacher time to help you
       Complete what you can

Be Specific

       Do not waste the teacher's time

State your problem

        Example: I forgot how to multiply fractions

Show teacher the location of the problem

        Example: Point to the area of the page where you are having trouble

Saying "Thank You"
Why?

_____

_____

_____

_____

When?
Whenever your teacher does something for you or your group

Examples:

_____

_____

_____

_____

How?
Make Sure:
1) Say "thank you" right after you've been helped
2) The teacher hears you
3) You try to say "thank you" at least 4 times per period

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Ways to Say "Thank You"

_____

_____

_____

_____

_____

_____

What to do	What **NOT** to do

How Did I Do?

Why?

_____

_____

_____

_____

When?

With 10 minutes or less left of class (at the end of class).

Everyday.

How?

1) Walk up to the teacher and ask "how did I do in class today?"

2) Come up with a signal (e.g. , ,

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