Evaluation of a Collaborative Planning Framework for General Educators Teaching Students with Severe Disabilities

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CHAPTER 1

INTRODUCTION

Long-standing legislation supports the rights of students with severe disabilities (i.e., students with intellectual disability, multiple disability, or autism who have significant cognitive impairments) to receive their education in a general education classroom (IDEA, 2004). In the 40 years since the passage of the Education for All Handicapped Children Act in 1975, students with severe disabilities increasingly receive some part of their education in general education classrooms. According to data collected by the Office of Special Education Programs (OSEP), 16.5% of students with intellectual disability, 13.3% of students with multiple disabilities, and 39.6% of students with autism spend 80% or more of their school day in general education classrooms. Further, across these disability categories, many students are spending at least some portion of the day in a general education classroom (U.S. Department of Education, 2017). Despite increases in general education placements over recent decades (Brock, 2018), there is still work to be done in ensuring all students with severe disabilities receive adequate access to and participation in the general education classroom. Therefore, it is important to look critically at the instruction and supports provided in the general education classroom.

The benefits of an inclusive education for students with severe disabilities have been studied extensively (e.g., Carter, 2018; Copeland & Cosbey, 2008; Jackson, Ryndak, & Wehmeyer, 2008). Studies have demonstrated students with severe disabilities can experience high levels of active engagement in the general education classroom when provided strong instruction and support. For example, Huber, Carter, Lopano, and Stankiewicz (2018) implemented peer support arrangements for students with severe disabilities in inclusive high

school classrooms. Researchers found that all four students' academic engagement was comparable to that of classmates without disabilities and either similar to or improved from baseline levels. Other studies have shown high levels of academic participation in the general education classroom (e.g., Carter et al., 2016; McDonnell et al., 2006). McDonnell and colleagues showed that three of four students with developmental disabilities learned vocabulary words at higher levels when receiving embedded instruction in the general education classroom compared to small-group instruction in the special education classroom. Students with severe disabilities also had more contact with the general curriculum in the general education classroom. For example, Carter et al. found that high school students with severe disabilities in a peer support treatment group had higher rates of academic engagement when receiving peer support in inclusive high school academic and elective courses. Students with severe disabilities who take general education classes also have higher quality individualized education program (IEP) goals. For example, Kurth and Mastergeorge (2010) found that included students with autism who spent 80% or more of their school day in general education had more IEP goals focused on academic skills than students who spent less than 50% of their school day in general education. Moreover, their academic goals were aligned to higher grade-level and more varied academic standards.

General educators are important leaders within inclusive classes and provide the majority of instruction to enrolled students. Decades of research on teacher quality maintain that classroom teachers are the most influential school factor on student achievement (Goldhaber, 2016). General educators hold much of the responsibility for the instruction of students in general education classes, including students with severe disabilities who are enrolled in their classes. Since general educators are often the only certified teachers in inclusive classrooms, the

need for research-based practices that can help them take a more active role in teaching students with severe disabilities is imperative.

Previous research underscores the critical role of general educators in the instruction of students with severe disabilities (Kuntz & Carter, in preparation). Sometimes this involvement is modest, such as when general educators help plan the intervention, complete social validity measures, or nominate peer tutors (e.g., Brock & Carter, 2016; Chung & Carter, 2013; Jameson, Walker, Utley, & Maughan, 2012; Heinrich, Collins, Knight, & Spriggs, 2016; Shukla, Kennedy, & Cushing, 1999). However, a small set of studies show how general educators can be more active in delivering instruction to students with severe disabilities. For example, McDonnell, Mathot-Buckner, Thorson, and Fister (2001) asked general educators to lead the entire class—including the students with moderate and severe disabilities—in a peer tutoring intervention that was developed in collaboration with the special educator. General educators formed peer tutoring groups, designated days in which peer tutoring would occur, and determined how the student with disabilities would be assisted. Collins, Branson, Hall, and Rankin (2001) trained a general educator—and later a peer—to implement a system of least prompts (SLP) procedure to teach composition skills to students with intellectual disability in her high school English class. The general educator delivered one instructional trial with the students each day and prompted according to a prescribed hierarchy (i.e., verbal direction, gesture, model, and physical guidance). Despite these examples of general educators taking a more active role in the intervention, peers ultimately delivered the instruction to the students with disabilities.

Increasing the involvement of general educators in the instruction of students with severe disabilities would better reflect recommended practice in inclusive education (Jorgensen, McSheehan, & Sonnenmeier, 2010; Kurth & Gross, 2015). Ryndak and colleagues (2014)

recommend general educators participate in the design, implementation, and evaluation of instruction for students with disabilities. One means of increasing involvement is through collaborative planning. General educators can work with special educators and other service providers (e.g., paraprofessionals) to develop strategies individualized to students with severe disabilities enrolled in their classes. Previous studies have explored collaborative planning and reported positive outcomes for both the general educators and students.

Hunt, Soto, Maier, and Doering (2003) investigated the effectiveness of collaborative planning between a general educator and special educator on the social and academic participation of elementary school students with severe disabilities. Teams met monthly to develop a flexible student support plan called a Unified Plan of Support with a built-in accountability system. Sample strategies from the plans included: teachers will ask yes/no questions or provide 2-3 choices as responses, teachers will pair a peer with the student to walk to the cafeteria and eat lunch together without paraprofessional support, and adults will redirect a student's request for help to peers. Researchers measured the academic engagement and social interactions of students with severe disabilities before and after implementation of the plan. Results indicated a decrease in unengaged time for all focus students and an increase in their interactions with teachers and peers. Additionally, each team identified benefits including improved collaboration, increases in student engagement and interactions, and more efficient utilization of school resources.

Biggs, Carter, and Gustafson (2017) evaluated the efficacy of collaborative planning and peer support arrangements to increase peer interactions and augmentative and alternative communication (AAC) use with middle school students with complex communication needs. Teams comprised of general educators, special educators, paraprofessionals, and speech

language pathologists (SLPs) met to develop a Peer Support and Communication Opportunity Plan. The team: (a) described the student's communication profile, (b) identified communication goals, (c) specified peer involvement, (d) developed a written plan for each class activity type, and (e) identified strategies peers needed to be successful. Sample student behaviors included: initiating interactions with peers, labeling objects with AAC device, putting away materials, and answering questions on AAC device. General educators also arranged seating assignments, checked-in with students and peers, and encouraged students to work together. Researchers measured communicative behavior of students with severe disabilities, communication of the peers, AAC use, paraprofessional facilitation, and peer support behaviors. The intervention produced increases in student and peer communication and peer support behaviors. Additionally, members of the student teams viewed the collaborative planning process as beneficial and important.

Collaborative planning often requires the educators implementing the plan to apply and generalize support behaviors across a range of instructional situations not always identified specifically in the initial plan. Generalization can be difficult, and completing different job-related recognition tasks (e.g., identifying or classifying objects)—even if only slightly different—than initially trained can impede accuracy and speed in those tasks (Bukach, Phillips, & Gauthier, 2010). For example, a support plan may indicate a student with a severe disability takes modified tests, and a teacher may be familiar with modifying spelling tests by changing the target words for the student with severe disabilities. This same teacher, however, may not know how to create a modified English essay test. Similarly, a support plan may state that teachers are to use visuals during instruction. The teacher may be able to use visuals representing classroom rules such as "raise your hand," "quiet voice," or "clean up" but may not be able to develop

visuals for concepts such as the water cycle or order of operations. A collaborative planning intervention may benefit from an added element of support for the implementer.

Ongoing consultation could assist educators who implement support plans to apply and generalize important student supports within their weekly lesson plans. Previous research on collaboration often has not included ongoing consultation after the initial planning meetings. For example, Biggs et al. (2017) evaluated the effects of peer support arrangements on social interactions and AAC use with classmates. Teams including paraprofessionals, special educators, general educators, and speech pathologists determined appropriate supports for students with severe disabilities as part of a one-time, collaborative planning meeting. Their results indicated modest increases in paraprofessional facilitation (e.g., prompting). Similarly, Brock, Biggs, Carter, Cattey, and Raley (2016) measured paraprofessional facilitation, prompting and reinforcement from peers, and student interactions in response to the development of a peer support plan. Special educators and paraprofessionals developed the peer support plans through a three-part training package that included creating the support plan, watching videos on how paraprofessionals can facilitate supports in the classroom, and special educator feedback from observations of the paraprofessional. They reported small increases in paraprofessional facilitative behaviors for a peer support plan intervention. The interventions in both studies consisted of just one collaborative meeting to develop the intervention support plan. Neither study included ongoing, follow-up consultation to improve implementation of the support plan in the context of specific lessons. In contrast, Hunt and colleagues (2003) held monthly meetings to create and then assess a Unified Plan of Support for students with severe disabilities in general education classrooms. Although implementation of the plan was measured through self-report each month, teams reported 42 of the 52 student supports (80.8%) were *moderately* or *fully*

implemented across focus students at the first follow-up meeting and 67 of the 69 supports (97.1%) by the final meeting. By including ongoing consultation in the intervention package, researchers have seen greater gains in the implementer's behaviors.

Despite the federally-mandated involvement of general educators on student IEP teams and the empirical support for collaborative planning, no study has evaluated the effects of collaborative planning focused on guiding general educators to implement instruction for students with severe disabilities in their classes. It is unclear what impact this could have on the engagement of students with severe disabilities in general education classes. Research is needed to investigate the effects of general educator implementation of collaborative planning with ongoing consultation. The purpose of this study was to evaluate the efficacy of collaborative planning with ongoing consultation to increase interactions and instructional behaviors between general educators and students with severe disabilities in inclusive classes. I addressed three questions:

1. Does the introduction of a collaborative planning with consultation (CPC) process lead to changes in the interactions general educators have with students with severe disabilities?
2. Does the academic engagement of students with severe disabilities increase when their general educators deliver lessons using the CPC process?
3. How do general educators view the social validity of the CPC process?

CHAPTER 2

METHOD

Participants

Educator Participants

Four general educators participated in the study. To be included, each general educator must have: (a) had at least one student with severe disabilities enrolled in at least one class; (b) taught at the secondary (i.e., middle or high) school level; and (c) taught a core content or elective class using traditional instructional approaches (e.g., direct instruction, guided practice, independent practice) that could accommodate a planning framework aligned to these approaches. General educators who taught physical education, vocational, or community-based classes were excluded from the study. General educators' teaching experience, experience with students with disabilities, and teaching certification were not considered in the selection process.

Student Participants

Four middle school students participated in the study—one student for each general educator. Included students must have: (a) attended a public middle or high school; (b) had a severe disability as evidenced by participation in the state's alternate assessment for students with significant cognitive impairments; (c) attended at least one general education class daily or on alternating days (e.g., block scheduling); and (d) had a current individualized education program (IEP) with at least one academic goal.

Recruitment and Selection

After receiving approval from the Vanderbilt Institutional Review Board (IRB) and two public school districts in middle Tennessee, I worked to recruit students and general educators who met the inclusion criteria. I emailed district personnel who had previously been involved in my research or were recommended by the districts' research board to identify students and general educators who met the inclusion criteria. This included seven special educators, three district-level employees, and one special education coach. I included a study flyer (Appendix A) explaining the goals of the study and inclusion criteria for both students and educators. In District A, special educators and the special education coach distributed 35 parent consent forms to students who met the inclusion criteria. Although the intervention focused largely on educators, the purpose of student consent was to access student records, discuss students with their teachers, and collect data on student behaviors. These same special educators also connected me with 18 general educators in person or via email. In District B, the director of the special education department emailed 16 special educators who then forwarded the information and flyer to their collaborating general educators. One interested general educator contacted me via email, but the class he taught did not meet the inclusion criteria. No students were identified and no parents were contacted in District B. In meetings or email communication with all interested general educators, I reviewed the purpose and goals of the study, presented the research questions, discussed the intervention, described the role and expectations of the general educator, allowed the teacher to ask questions, and reviewed the consent form.

I collected signed consent forms from seven general educators and 13 students. Five teacher-student pairs emerged from the pool of signed consent forms. For each teacher-student pair, I conducted initial observations of the student in the class and reviewed the student's

cumulative file to ensure the student met the inclusion criteria. This led me to exclude one student who was not assessed on the state's alternate assessment. Four teacher-student pairs met the inclusion criteria and participated in this study. Additionally, the two special educators who served the four included students consented to participate in the study at an initial planning meeting.

Ms. Carpenter and Carolina

Ms. Carpenter was an African American female who taught sixth grade English/Language Arts (ELA). She held a Master's degree in educational leadership and was licensed in the area of elementary education (K – 6). She had eight years of previous teaching experience, and it was her fourth year in her current position. She had three years of experience teaching students with severe disabilities.

Carolina was a 12-year-old, Hispanic female who received special education services under the disability category of autism. She also had a seizure disorder. According to educational records, Carolina received a Composite IQ score of 59 on the Comprehensive Test of Nonverbal Intelligence – Second Edition (Hammill, Pearson, & Weiderholt, 2009) and participated in the state's alternate assessment. Carolina had limited English proficiency and spoke Spanish as her first language. She did not require assistive technology. She was reported to be noncompliant with work tasks and would hit others when prompted to complete the work tasks; however, I did not observe these behaviors. She communicated through speech using single words or simple phrases. On her current IEP, her communication goals consisted of answering yes/no questions and receptively identifying a person's emotions. Her language goals focused on receptively identifying objects by category and comparative or spatial concepts (e.g., "Which is bigger?").

Her reading goals addressed reading sight words and answering wh- questions about a text. In addition to attending ELA, Carolina also attended general education related arts classes.

Ms. Adams and Austin

Ms. Adams was a Caucasian female who taught seventh grade Social Studies. She held a Bachelor's degree in American Politics, was licensed in the area of middle grades social studies (6 – 8), and was participating in the Teach for America program. She had one year of previous teaching experience, and it was her first year in her current position. She did not have prior experience teaching students with severe disabilities.

Austin was a 13-year-old Caucasian, male who received special education services under the disability categories of autism and intellectual disability. He also had retinopathy of prematurity (ROP) and myopia (i.e., nearsightedness). He wore glasses to correct the vision in his right eye and did not have any light perception in his left eye. According to educational records, Austin received a Full Scale IQ score of 57 on the Wechsler Intelligence Scale for Children – Fifth Edition (Wechsler, 2003) and participated in the state's alternate assessment. He did not require assistive technology or engage in any challenging behaviors that impeded his or his peers' learning. He communicated through speech using full sentences. On his current IEP, his language goal focused on engaging in conversations with peers and adults regarding non-preferred topics. His reading goal addressed reading CVCE (e.g., fuse) and CVVC (e.g., soap) words. Although Austin attended a Social Studies class, his current IEP did not have goals specifically related to Social Studies content. In addition to attending Social Studies, Austin also attended related arts and science in general education classes.

Ms. Brown and Bridget

Ms. Brown was a Caucasian female who taught sixth grade Science and Social Studies. She held a Master's degree in curriculum and instruction/reading specialist. She was licensed in the areas of elementary education (K – 8) and reading specialist (Pre-K – 12). She had 18 years of previous teaching experience, and it was her third year in her current position. She had three years of prior experience teaching students with severe disabilities.

Bridget was a 13-year-old, Asian female who received special education services under the disability categories of intellectual disability and speech impairment. Bridget had Down syndrome and was adopted from China two years prior to the study. She was evaluated and qualified for special education services in another state and moved to her current school district after the start of the current school year. The IEP from her previous school indicated she would participate in the state's alternate assessment. Her current IEP team was in the process of conducting a psychological evaluation during this study since no previous evaluation report was provided by the parent or previous school. Bridget had limited English proficiency and spoke Chinese as her first language. She did not require assistive technology or engage in any problem behaviors that impeded her or her peers' learning. She communicated primarily through gestures and vocalizations or single-word approximations. On her current IEP, her communication goal focused on answering wh-questions using pictures. Her reading goals addressed matching key vocabulary—one goal specified science content—and recognizing sight words. In addition to attending Science, Bridget also attended related arts and social studies in general education classes.

Ms. Davenport and Daria

Ms. Davenport was an African American female who taught fifth grade English/Language Arts (ELA). She held a Master's degree in literacy and was licensed in the areas of early childhood education (Pre-K – 3) and elementary education (K – 6). She had five years of previous teaching experience, and it was her fifth year in her current position. She had two years of experience teaching students with severe disabilities.

Daria was a 10-year-old, Hispanic female who received special education services under the disability category of intellectual disability. She also had an unspecified chromosomal disorder. According to educational records, Daria received a Full Scale IQ score of 53 on the Stanford-Binet Intelligence Scales – Fifth Edition (Roid, 2003) and participated in the state's alternate assessment. Daria had limited English proficiency and spoke Spanish as her first language. She did not require assistive technology or engage in any challenging behaviors that impeded her or her peers' learning. She communicated through speech in brief, simple sentences. On her current IEP, her language goals focused on verbalizing sentences about a passage and verbally recalling four events of a story in order. Her reading goals addressed reading passages fluently at her appropriate level (i.e., Fountas and Pinnel Instructional Level G) and correctly recalling key details from the passages. In addition to attending ELA, Daria also attended math and related arts in general education classes.

Special Educators

Two special educators participated in this study. Ms. Williams was Austin's and Bridget's special education teacher. She was an African American female who served middle school students primarily with severe disabilities. She held a Bachelor's degree in special education and was licensed in the area of modified special education (K – 12). She had nine

years of previous teaching experience, and it was her second year in her current position. Ms. Johnson was Carolina's and Daria's special education teacher. She was an African American female who also served middle school students primarily with severe disabilities. She held a Master's degree in special education and was licensed in the area of modified special education (K – 12). She had 13 years of previous teaching experience, and it was her tenth year in her current position.

Interventionist

The first author, a doctoral student in special education, served as the interventionist in this study. She was a Caucasian female with a Master's degree in special education and was licensed in the areas of elementary education (K – 6) and comprehensive special education (K – 12). She also was a Board Certified Behavior Analyst (BCBA), had two years of public school teaching experience, and had 11 years of experience working with students with severe disabilities. Her role involved facilitating all meetings and provided all consultation to the general educators.

Setting

The study took place in two middle schools in one large, metropolitan school district. Both public schools served students in grades 5 through 8. Austin and Bridget attended Clearcreek Middle School, which enrolled 633 students—33.5% of whom were classified as economically disadvantaged and 3.5% were English language learners. Clearcreek Middle School served students of varied ethnic and cultural backgrounds (i.e., 50.9% were Caucasian, 33.2% were African American, 10.1% were Hispanic, and 5.5% were Asian) and had a history of including students with severe disabilities in general education science, social studies, and

related arts classes. Carolina and Daria attended Glenmeade Middle School, which enrolled 675 students—41.6% of whom were classified as economically disadvantaged and 18.7% were English language learners. Glenmeade Middle School also served students of varied ethnic and cultural backgrounds (i.e., 43.6% were Hispanic, 35.0% were Caucasian, 18.5% were African American, and 3.0% were Asian) and had begun to include students with severe disabilities in general education, core content classes within the previous three years. The study took place in Carolina's ELA class (25 enrolled students), Austin's Social Studies class (27 enrolled students), Bridget's Science class (24 enrolled students), and Daria's ELA class (20 enrolled students).

Experimental Design and Procedures

I used a multiple probe across participants design (Gast & Ledford, 2014) to evaluate the effectiveness of the CPC process, which involved teachers creating a Student Support Plan, developing Quick Plan lessons for a student with severe disabilities, and implementing these lessons. By selecting this design, I controlled for threats to internal validity by using concurrent baselines and a systematic, staggered introduction of each intervention condition. I graphed data for each primary dependent variable (i.e., teacher interactions and student academic engagement) as illustrated in Figure 1 and used visual analysis of data patterns (i.e., level, trend, overlap, and variability) to determine a functional relation.

I hypothesized that (a) the percentage of intervals containing teacher interactions with the focus student would increase, (b) the instructional behaviors directed toward the focus student would more often consist of instructional behaviors rather than primarily social interactions, and (c) the percentage of intervals in which students were academically engaged in activities aligned to the class would increase. I first introduced the intervention in the tier with the lowest and/or most stable level of teacher interactions during the baseline condition. I introduced the

intervention in subsequent tiers when data indicated an increase in level over a minimum of three data points for one or both primary variables.

Baseline

During the baseline conditions, all general educators provided instruction to students in the same manner as prior to the study. All four focus students received paraprofessional support within the class. Focus students rarely received work to complete and sat at tables similar to, but separate from, peers without disabilities. I did not provide directions or restrictions to how general educators were to plan or deliver instruction.

Carolina was scheduled to attend the 50 min ELA class. Upon entering the class, each student would pick up a half-sheet of paper with a printed paragraph containing spelling and grammatical errors. Students glued the printed paragraphs into their composition notebooks and corrected the errors using previously learned proofreading marks. Ms. Carpenter reviewed the corrections with the class using a document camera before starting the day's lesson—typically reading passages or journal activities. Carolina often entered the class after it had begun, selected her own seat upon entering with the paraprofessional, and repeatedly sorted through papers or books in her back pack before leaving prior to the end of class.

Austin was scheduled to attend the entire 61 min Social Studies class. Ms. Adams created daily worksheets that guided students through the day's content. The worksheets included answering questions, filling in the blank, writing definitions, and directions for table discussions. Worksheet answers came from textbook readings, supplemental readings, and brief videos. Austin sat at a table of desks with a paraprofessional and several other students with severe disabilities. The paraprofessional often had one copy of the class's worksheet and asked

questions to each of the students with severe disabilities as the material was discussed in with the whole class.

Bridget was scheduled to attend the entire 60 min Science class. Instruction in this class tended to vary. At times, Ms. Brown reviewed PowerPoint slides aloud, read sections of the textbook, or distributed worksheets for students to complete. Directions indicating a transition in activity or expectation were often unclear, optional, or not enforced. Bridget, who began attending the class after the first month of school and a few days prior to data collection, sat at a table with a paraprofessional and two other students with severe disabilities. Bridget often wrote repetitively on loose leaf paper or folded origami.

Daria was scheduled to attend the first 30 min of the 60 min ELA class. Each day, Ms. Davenport posted morning work and the question for morning meeting (e.g., What do you want to be for Halloween? If you had a super power, what would it be?) on the board for students to complete prior to morning announcements. After morning announcements, the class would stand in a circle around the classroom to share how they were feeling that morning and answer the morning meeting question. Then, the class would review the morning work before beginning the day's lesson. Daria sat at a table with the paraprofessional and one other student with severe disabilities. She would often talk with the peer at her table or flip through her library book before participating in morning meeting. Daria typically left the class after morning meeting.

Collaborative planning and consultation (CPC) intervention

This intervention was comprised of two distinct elements: (a) one Student Support Plan meeting to gather important information about the student and develop general instructional and support strategies for the classroom routines and (b) regular Quick Plan meetings to specify the

strategies for daily lessons. General education instruction remained the same as instruction in the baseline condition for each teacher.

Student support plan meeting. After baseline data were collected and prior to the intervention, I facilitated an initial planning meeting with the general and special educator of each participating student. The initial planning meeting lasted 60 min and took place in a location convenient for the team (e.g., empty classroom after school). I used the Planning Framework guide (Appendix B) to lead this meeting. I started by explaining the goals of the project and outlining the expected roles of each team member. During the meeting, the team created a Student Support Plan using a form adapted from Jorgensen (2018) and Kurth and Gross (2015). The form addressed five components—(a) student's strengths and interests, (b) student's present levels of performance in core academic skills, (c) helpful strategies to support the student, (d) an academic goal to practice in the general education class, and (e) participation in classroom routines (Appendix C).

First, I asked the team about the student's strengths and interests using the Planning Framework. I asked what the student was good at doing, what the student like to do, and what the student was interested in. The purpose was to incorporate into class lessons these activities and objects the student enjoyed and with which they were successful.

Second, I asked the special educator to identify the student's present levels of performance in core academic skills. I asked about the student's reading level (e.g., ability to read passages, sight words, or letters), math skills (e.g., number recognition, basic operations, number sense), and writing ability (e.g., handwriting, writing from dictation, typing). This was needed to identify activities in which the student could be successful and independent.

Third, I asked the special educator to share helpful strategies to use when supporting the student. I asked her to address how the student receives information (i.e., receptive communication), how the student expresses him/herself (i.e., expressive communication), what seating arrangement is needed for the student to best hear/see/interact, how to provide assistance when the student is struggling, how to support the student in socializing with others, and what behavioral supports are need for managing problem behaviors, if applicable. This gave each general educator ways to communicate with the student and identified supports that would be familiar to the student.

Fourth, I asked the team to review the student's current IEP goals and determine which goal would be appropriate to focus on in the class (i.e., one that could be addressed in the class regularly and frequently). This included selecting a goal from the student's current IEP, identifying specifics of the goal (e.g., which sight words, which types of questions), and suggesting examples of embedding the goal within a typical class activity (e.g., copying from a model while the class journals). The purpose was to aid the teacher in creating individualized instruction aligned specifically to his/her IEP within the general education class.

Fifth, I asked the general educator to explain her expectations for eight common classroom routines (i.e., the beginning/end of class, whole-group instruction, whole-class discussion, small-group work, independent work, presentations, lab activities, tests/quizzes). The special educator described typical instructional supports the student would need to participate in each routine (i.e., communication support, assistive technology, physical supports, peer/paraprofessional support). The purpose was to create a reference that outlined how to incorporate the student in routines when a routine was planned in an upcoming lesson.

Quick plan meetings. Approximately each week, the general educator and I met for 30-min to use the Student Support Plan to create a Quick Plan (Appendix D). The plan was adapted from Jorgensen (2018). This Quick Plan was based on the upcoming lessons that general educators already had planned. General planning for the class did not occur during the Quick Plan meetings nor did it tend to occur as part of this study. Since the Quick Plans were based on the general educator's existing plans, the level of detail for the Quick Plans was directly related to the extent to which the general educator had planned for the upcoming classes. These Quick Plan meetings typically occurred weekly depending on the general educators' availability. If plans for the week were not finalized when we met for the Quick Plan meeting, the teacher would email additional materials and plans when ready. This only occurred for Ms. Adams and Ms. Davenport. For each day of the week, the Quick Plan identified four main elements of each class period: (a) the details of the day's lesson, including which class routines would be used; (b) how the student would participate in each activity and any needed adaptations, if participation differed from the rest of the class; (c) the materials the student would use, including any adapted materials; and (d) supports the student would need, as outlined on the Student Support Plan (i.e., communication, assistive technology, physical, peer/paraprofessional).

First, the general educator identified the types of activities planned for each day and class expectations pertaining to each routine. Within each activity, she listed the content that would be covered and the materials that would be used. For example, Ms. Davenport might start with independent morning work focused on defining an unknown word in a sentence by using context clues, followed by circling up as a whole class to have a morning meeting, then discussing the independent work as a whole class, and transition to reading a text in small groups highlighting sentences that demonstrated character development.

Second, we referred to the Student Support Plan as a guide for identifying how the student with severe disabilities could meet the expectations during each activity and which adaptations, if any, were required. For example, Daria, in Ms. Davenport's class, may have needed picture support and response options for the independent morning work, a rehearsal of her answer to the morning meeting question, and the same text in the small group.

Third, we discussed only needed materials that differed from those of the rest of the class. When adapted materials were needed, I often made suggestions for adapted materials or described how the existing materials could be adapted. Based on input from the general educator, I adapted some materials after the meeting. For example, I added picture support and response options to the independent morning work for Daria using Ms. Davenport's Word document and emailed the adapted morning work back to Ms. Davenport prior to the class period.

Fourth, we discussed which supports (i.e., communication, assistive technology, physical, peers/paraprofessional) the student needed during each routine outlined on the Student Support Plan. For example, Daria needed paraprofessional support to rehearse her answer to the morning meeting question and peer support to read and highlight the text in small groups. If the student did not have needs in any of these areas, the supports were noted as "not applicable."

I also offered explicit strategies for incorporating how/when praise and error correction could be implemented, how students could be seated, and how a behavior plan could be implemented as indicated on the Student Support Plan document. During subsequent Quick Plan meetings, I asked the general educator how she felt the previous plans went, and we discussed problems that were encountered before planning upcoming lessons.

Dependent Variables

Throughout each observation, observers collected data on general educator- and student-focused variables using a pencil-and-paper data collection sheet (see Appendix E).

General Educator Variables

Dependent variables for the general educators included (a) interactions with the focus student and (b) types of instructional behaviors.

Teacher interactions with focus student. Observers recorded the occurrence of an interaction between the general educator and the focus student. An interaction was defined as verbal or nonverbal behaviors directed to the focus student regarding instruction, behavior, or another topic (Chung, Carter, & Sisco, 2012). An interaction directed toward all members of a small group (i.e., four or fewer students) that included the focus student was recorded as an occurrence of a general educator interaction. General educator's interactions directed to the whole class (including the focus student) or other students in the classroom were not coded. Interactions were recorded using a 1-min partial-interval recording system indicating the presence or absence of one or more general educator interaction with the focus student during each observation interval.

Instructional behaviors. Observers categorized each type of instructional behavior directed to the focus student occurring at any point during each interval. Instructional behaviors included the (a) presentation of a work task to the student, (b) reinforcement/praise of the student, (c) error correction of the student, (d) seating arrangement or grouping of the student, (e) peer arrangement for the student, (f) behavioral plan for the student, and (g) other non-instructional behaviors (each of these five categories of behavior are defined below). All behaviors were coded using a 1-min partial-interval recording system indicating the presence of

each instructional behavior during each observation interval. For each interval in which a teacher's interaction with the focus student was coded as occurring, at least one instructional behavior also was coded. More than one instructional behavior could be coded in an interval (e.g., presentation of a work task and praise for a correct academic response in the same interval). Observers also provided written comments on the data sheet giving details of each instructional behavior.

The presentation of a work task could be coded as same, adapted, or alternate. To be coded as *same*, the presented task, direction, or comment was the same as the instruction of the entire class in content, materials, product, and other attributes. For the presentation of the work task to be coded as *adapted*, the presented task, direction, or comment was adapted from the instruction of the entire class in either content, materials, product, or another attribute by supplementing or simplifying the task of the general class (Janney & Snell, 2006). For the presentation of the work task to be coded as *alternate*, the presented task, direction, or comment was different from the instruction of the entire class in content, materials, product, or another attribute by changing the content or type of skill completely (e.g., daily living skill versus academic skill; Janney & Snell).

Reinforcement/praise was a comment or exclamation of approval from the general educator and directed toward the focus student. The comment or exclamation could be verbal or non-verbal and could include gestures (e.g., thumbs up) or vocalizations (e.g., "woo hoo!"). For reinforcement/praise to be coded as *academic*, the provided comment or exclamation pertained to the academic work task or content in which the focus student was engaged. For reinforcement/praise to be coded as *non-academic*, the provided comment or exclamation

pertained to the non-academic behaviors or social interactions in which the focus student was engaged (Brock et al., 2016; Brock & Carter, 2016).

Error correction was a comment or signal from the general educator directed toward the focus student with the intent to change the student's work or behavior. The comment or signal could be verbal or non-verbal and could include gestures (e.g., finger over lips to indicate quiet). For the error correction to be coded as *academic*, the provided comment or signal pertained to the correction of an academic work task or product in which the focus student had engaged (e.g., prompt to continue working). For the error correction to be coded as *non-academic*, the provided comment or signal pertained to the correction of a non-academic behaviors or social interactions in which the focus student had engaged (Brock et al., 2016; Brock & Carter, 2016).

For *seating/grouping* to be coded, the general educator explicitly assigned the focus student to a desk/table in the classroom or to a group of students related to an assignment or activity. For *peer arrangement* to be coded, the general educator assigned a peer to support the focus student either academically or socially in the context of a work task or transition outside of class-wide group work. For *behavioral support* to be coded, the general educator utilized a behavior support strategy with the focus student as outlined in the student's individualized behavior plan or the teacher's classwide management plan. For *other behavior* to be coded, the general educator engaged in a non-instructional interaction not otherwise specified in the previous categories. Seating/grouping, peer arrangement, and behavior support behaviors were only coded when the teacher discussed the arrangement with the student and were not coded in any subsequent intervals in which the arrangements continued. For example, seating/grouping was coded in the interval that the teacher assigned the student to a desk in the class, but it was not coded in the intervals in which the student remained in that seat for the duration of the class.

Observers noted the context or details pertaining to any instructional behavior such as how the student was grouped or the topic of the comment made.

Student Outcomes

Dependent variables related to the focus student included: (a) academic engagement, (b) interactions, and (c) instructional format.

Academic engagement. Observers recorded the academic engagement of the student displays at the end of each interval using a 1-min momentary time sampling recording system. Engagement was categorized as *engaged – consistent*, *engaged – inconsistent*, and *not engaged*. To be *engaged – consistent*, the focus student was actively attending to instructional activities and/or tasks assigned by the teacher or the paraprofessional that were consistent or aligned with the content provided to the remainder/majority of the class (i.e., identical or appropriately modified from the class curriculum with respect to difficulty, modality, response format, length, and/or materials; Carter et al., 2016). To be *engaged – inconsistent*, the focus student was actively attending to instructional activities and/or materials assigned by the teacher/paraprofessional that were not consistent or aligned with the content provided to the remainder/majority of the class (i.e., not identical or appropriately modified from the class curriculum with respect to difficulty, modality, response format, length, and/or materials). To be *not engaged*, the focus student was overtly not attending to any instructional activities and/or tasks or the focus student was engaged in activities and/or materials that were not assigned by a teacher or paraprofessional (e.g., doodling in a notebook, folding origami).

Interactions. Interactions were defined as verbal or nonverbal behaviors directed by or to the focus student regarding instruction, behavior, or other topics and appeared to have communicative intent (e.g., gaining the partner's attention, looking at the partner, responding to a

partner; Biggs et al., 2017). We coded interactions with four different categories of partners—general educators, paraprofessionals, peers, or other partners. Interactions were recorded using a 1-min partial-interval recording system where the occurrence of an interaction was recorded along with the interaction partner. For example, if the student interacted with one or more peers during an interval, "peer" was indicated for the corresponding interval on the data sheet. If the student also interacted with a paraprofessional during the same interval, "peer" and "paraprofessional" were indicated for the interval on the data sheet. If the student did not interact with anyone during an interval, "no interaction" was indicated for the interval.

Instructional format. Observers recorded the format in which the focus student was receiving instruction. Instructional format was coded at the end of each interval using a 1-min momentary time sampling recording system where the format was identified as *whole group*, *small group*, *individual work*, or *no instruction* (Chung et al., 2012). *Whole group* instruction was recorded when the focus student was receiving instruction from a teacher at the same time as 8 or more students. *Small group* instruction was coded when the focus student was working cooperatively with one to seven other peers (i.e., between two and eight total students). *Individual work* instruction was coded when the focus student was working on their own with or without the ongoing assistance from teachers or paraprofessionals. *No instruction* was coded when the focus student was not assigned any tasks, had completed assigned tasks, was waiting for a task, or was transitioning from one task to another task.

Observer Training and Interobserver Agreement

I measured the dependent variables using live, timed-event sampling on pencil-and-paper data collection sheets (see Appendix E). For each participating teacher-student pair, direct observations during the selected class period took place approximately two to four times per

week during the baseline and intervention conditions. The length of the observations corresponded with the length of time the student was present in the class (M = 40 min; range, 7 – 63 min). During observations, observers sat quietly in the classroom where the focus student could be seen and heard but where they were not obtrusive or a distraction to other students.

Observer Training

Prior to the start of the study, I trained three observers on the observational measurement system. Two observers were graduate students pursuing doctoral degrees in special education. Each held Master's degrees in special education and had worked as either a special educator or a teacher for students with visual impairments (TVI). The third observer was a graduate student who was pursuing a Master's degree in special education and had a Bachelor's degree in psychology. First, all observers participated in a 2-3 hr instructional training. The purpose of this training was to explain the observational data collection manual, including operational definitions, examples, and non-examples for each variable (see Appendix F). The training included guided practice using presented scenarios, modeled examples of behaviors in each scenario, video clips of classrooms, discussion, and clarification of definitions. Observers were introduced to the data collection sheet used for recording the data. Following the training, observers were asked to independently review the coding manual, become familiar with the data collection sheet, and note any additional questions.

Second, observers attended a 1-2 hr follow-up training focused on solidifying their understanding of the coding definitions for dependent variables, providing additional practice coding on novel video clips with feedback, and answering questions. At the end of this second training, I assessed observers' knowledge of the coding manual, definitions, and rules using a written assessment. Before coding during live observations, all observers scored above 90% on

the written assessment and exceeded 90% agreement with the primary coder on a novel practice video.

Interobserver Agreement (IOA)

IOA data were collected across all study conditions for each focus student. A second observer observed with the primary observer in 37.5% of all observations, and each observer recorded data independently. IOA observations were conducted randomly and balanced across students and study conditions—with the exception of the first tier's baseline condition. This was due to observer training and student absences. Data collection for both observers during an IOA observation started and ended at the same times. Overall IOA was calculated shortly after each IOA observation to have a discrepancy discussion and conduct re-training specific to the variable (i.e., identify the coding discrepancies, review the coding manual, practice with additional examples). IOA was calculated using overall point-by-point agreement by dividing the number of intervals in which the primary and secondary observer codes matched by the total number of intervals, multiplying by 100. Additionally, occurrence and non-occurrence agreement was calculated for each variable (see Table 1). Occurrence agreement was calculated by dividing the number of intervals in which the secondary coder's occurrences matched the primary coder's occurrences for each variable by the total number of primary coder's occurrences for the variable, multiplying by 100. Non-occurrence agreement was calculated by dividing the number of intervals in which the secondary coder's non-occurrences matched the primary coder's non-occurrences for each variable by the total number of primary coder's non-occurrences for the variable, multiplying by 100.

Overall IOA for instructional behaviors was as follows: teacher interactions (M = 98.2%, range 90.5% - 100.0%), same work task (M = 99.0%, range 91.3% - 100.0%), adapted work task

(*M* = 98.3%, range 88.1% - 100.0%), alternate work task (*M* = 99.2%, range 87.0% - 100.0%), academic praise (*M* = 99.5%, range 92.9% - 100.0%), non-academic praise (*M* = 99.6%, range 95.2% - 100.0%), academic error correction (*M* = 98.5%, range 88.1% - 100.0%), non-academic error correction (*M* = 98.3%, range 91.3% – 100.0%), seating/grouping (*M* = 99.8%, range 96.0% - 100.0%), peer arrangements (*M* = 100.0%), behavior supports (*M* = 100.0%), and other behaviors (*M* = 97.2%, range 73.9% - 100.0%). Overall IOA for student variables was as follows: academic engagement (*M* = 82.6%, range 72.6% - 91.3%), paraprofessional interactions (*M* = 88.1%, range 72.7% - 100.0%), peer interactions (*M* = 95.3%, range 87.0% - 100.0%), other interactions (*M* = 98.3%, range 96.6% - 100.0%), and instructional format (*M* = 89.3%, range 85.3% - 94.7%).

Variable	Occurrence	Non-occurrence	Overall
Teacher interactions	87.8	99.5	98.2
Work task			
Same	42.9	99.9	99.0
Adapted	64.3	99.3	98.3
Alternate	57.1	100.0	99.2
Reinforcement/praise			
Academic	69.2	99.8	99.6
Non-academic	75.0	99.8	99.6
Error correction			
Academic	63.6	99.5	98.5
Non-academic	50.0	99.8	99.2
Seating/grouping	100.0	100.0	99.8
Peer arrangement	-	100.0	100.0
Behavior plan	-	100.0	100.0
Other	76.7	99.5	97.2
Student interactions			
Paraprofessional	82.8	86.8	88.1
Peer	79.2	96.6	95.3
Other	72.0	99.1	98.3
Academic engagement	79.6	78.1	82.6
Instructional format	-	-	89.3

Table 1. Average Occurrence and Non-occurrence Interobserver Agreement by Variable

For the instructional behaviors, agreements on the interactions between the general educator and focus student were very high overall. Disagreements occurred most often in classifying the type of interaction. These instances occurred when observers did not share the same understanding of the academic content provided to the student or when more than one instructional behavior occurred in the same interval. For example, one observer saw the same worksheet being assigned and coded tasks as "same." However, the second observer recognized that the task direction signaled an adaptation in the task (e.g., the class used the worksheet to add proofreading marks and the focus student used the worksheet to identify sight words) and coded the tasks as "adapted." As another example, the teacher may have told the student, "Good job! Now, how did the invention of the plow help these farmers make more money?" Both "academic praise" and "same work task" should be coded, but one observer only coded the work task.

For the student behaviors, other classroom variables had some impact on agreement. Despite observers sitting near one another and the focus student, general classroom volume and one's line of sight could account for some variability in coding. Observers intentionally sat within eyeshot and earshot of the focus student, but observers did not sit directly next to the student or ask the general educators to rearrange their classrooms to accommodate observers. Observers attempted to remain discrete and did not follow the student around the classroom within a class period when physical arrangements changed. This accounted for some variability in coding of student interactions and academic engagement.

Other disagreements in academic engagement occurred primarily for two reasons—the context of the engagement and differences in visibility across observers. First, Austin often self-stimulated by rocking in his chair and moving his head around in circles often stopping to look briefly at objects or people in the classroom. At times, this included looking at the general

educator, which one observer may have coded as consistently engaged because "looking at the teacher" was part of the operational definition. The other observer may have coded this as not engaged because the behavior was brief, in the context of sustained self-stimulation, and had no other aspect of the definition to indicate sustained attention to what the teacher was saying. Second, Bridget often mimicked note-taking by repeatedly writing several different letters margin to margin on loose leaf paper, which would be coded as not engaged in the class activity. However, she always had loose leaf paper nearby when working on actual class assignments at her desk and frequently switched between these activities. The subtlety of these shifts in engagement may have gone unnoticed by one observer and not the other.

Procedural Fidelity

Procedural fidelity was assessed at two levels of implementation of the collaborative planning framework—the development of the Student Support Plans and the consultation regarding weekly lesson plans through the Quick Plans. I used a set of pencil-paper checklists and written notes to assess procedural fidelity. I provided no support, advice, or suggestions to any general educator regarding classroom instruction or supports to the focus student during the baseline condition. At the introduction of the intervention for each student, I used a checklist for the Student Support Plan meetings (Appendix G) that consisted of 17 items. The items mirrored the steps on the Collaborative Planning Framework document and are displayed with the percentages of occurrences in Table 2.

Fidelity during Student Support Plan meetings was calculated by dividing the number of completed items by the number of possible items and multiplied by 100. Each item was addressed across all four students' meetings, and fidelity was 100%. During the intervention

condition for each student, I used a checklist for the Quick Plan meetings (Appendix H) that consisted of 20 possible items. This checklist was completed based on the applicable components

Teacher	Meeting	Items complete	Items possible	Percent
Ms. Carpenter	Student support plan	17	17	100.0%
	Quick plan 1	16	17	94.1%
	Quick plan 2	19	20	95.0%
	Quick plan 3	19	20	95.0%
	Quick plan 4	19	20	95.0%
	Quick plan 5	19	20	95.0%
Ms. Adams	Student support plan	17	17	100.0%
	Quick plan 1	18	20	90.0%
	Quick plan 2	15	17	88.2%
	Quick plan 3	13	14	92.9%
	Quick plan 4	16	17	94.1%
	Quick plan 5	10	11	90.9%
	Quick plan 6	18	20	90.0%
Ms. Brown	Student support plan	17	17	100.0%
	Quick plan 1	12	14	85.7%
	Quick plan 2	13	14	92.9%
	Quick plan 3	18	20	90.0%
	Quick plan 4	16	17	94.1%
Ms. Davenport	Student support plan	17	17	100.0%
	Quick plan 1	13	14	92.9%
	Quick plan 2	18	20	90.0%

Table 2. Procedural Fidelity Data by Teacher and Meeting

of the plan each week. Applicable components were based on the lesson preparations of the general educator (i.e., the days the teacher had plans prepared), and fidelity consisted of the provision of support for each prepared lesson. For example, if a Quick Plan meeting occurred on a Monday before school and the general educator only had lesson plans for Monday and Tuesday, procedural fidelity was collected for the researcher's support concerning those days' activities. Class periods in which the general educator did not provide plans to the researcher

were not factored into procedural fidelity. For the checklists, fidelity was calculated from dividing the number of completed items by the total number of applicable items and multiplying by 100. Across participants, Quick Plan fidelity averaged 92.1%, and applicable components averaged approximately 17 out of 20 items. By participant, average Quick Plan fidelity was as follows: Carolina (94.8%), Austin (91.0%), Bridget (90.7%), and Daria (91.4%). Errors in fidelity included the researcher, rather than the general educator, filling out the form.

Social Validity

I assessed social validity by examining general educator perspectives of the acceptability, feasibility, and impact of the intervention at the end of the study (i.e., 5 weeks after data collection ended). Each general educator also participated in an interview and completed a brief survey. A doctoral student who had no previous interactions with the general educators conducted the interviews as an attempt to minimize the likelihood that an educator would censor her responses based on my presence as the primary researcher. Interviews consisted of several open-ended questions in which educators could respond in as much or as little detail as they chose (see Figure 1). The surveys consist of a series of statements in which the educator responded with the answer that best reflects her views (i.e., strongly agree, agree, neutral, disagree, strongly disagree). The interviewer asked the pre-determined questions and responded to the educators' responses by acknowledging understanding or asking for clarification to a response. Questions asked about how the CPC process helped to meet the needs of the student with severe disabilities in the class, how the process aligned to and impacted their regular planning process, how feasible and acceptable their viewed their role in the process, and what recommendations they would make regarding the process and supports needed from the

school/district to continue the process. Interviews took place in general educators' classrooms and lasted between 10-25 min.

Directions. This interview will consist of 10 questions in which you can respond in as much or as little detail as you choose. The purpose of these questions is to gain better insights into teacher perspectives on the project and ways of effectively supporting students with severe disabilities in inclusive classes. The interview will be audio recorded in order to compile and synthesize.

1. How do you feel that the Student Support Plan and subsequent Quick Plans with consultation helped you better meet the needs of _____ in your class?
2. How did the Quick Plan meetings/forms fit or align with how you typically plan your lessons?
3. How do you feel that the Student Support Plan and subsequent Quick Plans with consultation affected the planning of the general instruction of your class?
4. One of the goals of this project was to increase teacher interactions with students with severe disabilities. How do you feel this project helped or did not help you interact more with _____ in your class?
5. How have you continued using the Student Support Plan and Quick Plans for your instruction with _____? What aspects have you changed or discontinued?
6. Do you feel that your responsibilities as part of this project (e.g., what was required of you) were feasible and acceptable? Why or why not?
7. How would this planning process change/improve by consulting with the special educator already assigned to support _____ instead of a researcher?
8. What could your school/district do to equip educators with the tools necessary to collaboratively plan instruction for students with disabilities (e.g., providing adequate planning time, defining clear expectations/roles for collaboration, training or support in learning collaborative planning skills or inclusive instruction)?
9. What recommendations do you have for the collaborative planning with consultation intervention?
10. Do you have any other thoughts or comments regarding this project or the education, planning, and inclusion of students with severe disabilities in general education classes?

Figure 1. Post-intervention interview questions for general educators.

CHAPTER 3

RESULTS

The primary variables of interest were teacher interactions and student academic engagement. Other coded behaviors were instructional behaviors, student interactions, and instructional format. Table 3 displays descriptive information for all variables across participants and study conditions.

Did the CPC Process Increase Teacher Interactions and Behaviors?

Figure 2 displays the percentage of intervals with teacher interactions across teacher-student pairs and experimental conditions. There were positive effects between the CPC process and an increase in teacher interactions. One general educator, Ms. Carpenter, had large increases in her percentage of interactions with Carolina. The other three general educators (Ms. Adams, Ms. Brown, and Ms. Davenport) had very small increases in their percentages of interactions with Austin, Bridget, and Daria respectively. In the baseline condition, the interactions (i.e., instructional behaviors) most often focused on non-instructional topics. In the CPC condition, all four general educators used a greater variety of instructional behaviors with the students (e.g., assigning work tasks, providing praise, and delivering prompts).

Ms. Carpenter

In the baseline condition, Ms. Carpenter's interactions with Carolina were low with a decreasing trend. She interacted with Carolina during an average of 5.6% of intervals (range 4.0% – 16.7%). These interactions only addressed seating arrangements (55.6%) and other non-instructional topics (44.4%). In the CPC condition, Ms. Carpenter showed an overall increase in

level (*M* = 31.8%, range 14.3% – 40.9%) with one overlapping data point with the baseline condition. Ms. Carpenter used more variety in the types of instructional behaviors than in the baseline condition. She continued to address other non-instructional topics (34.7%) and seating arrangements (4.0%) but also used her academic praise (21.8%), adapted work tasks (20.8%), academic error correction (11.9%), same work tasks (3.0%), and non-academic error correction (3.0%).

Ms. Adams

In the baseline condition, Ms. Adams's interactions were generally low and stable. In the third school day, however, levels of interactions were higher as the paraprofessional was absent from the classroom. Ms. Adams interacted with Austin during an average of 6.7% of intervals (range 1.6% – 43.8%). These interactions addressed other non-instructional topics (35.0%), same work tasks (32.5%), academic and non-academic error correction (12.5% each), academic praise (5.0%), and seating arrangements (2.5%). In the CPC condition, Ms. Adams showed a small increase in the level of her interactions (*M* = 11.4%, range 0.0% – 40.5%). When the paraprofessional was absent on the 33rd school day, she interacted with Austin in 40.5% of intervals. Because of the baseline session in which the paraprofessional was absent and teacher interactions levels peaked, all data points in the CPC condition overlap. Ms. Adams changed how she interacted with Austin. Her interactions focused on adapted work tasks (36.3%), non-instructional interactions (21.3%), academic praise (16.3%), academic error correction (12.5%), non-academic error correction (6.3%), same work tasks (5.0%), and non-academic praise (2.5%).

Ms. Brown

In the baseline condition, Ms. Brown's interactions were stable at or near zero levels. Ms. Brown interacted with Bridget an average of 2.3% of intervals (range 0.0% – 6.7%). Her interactions addressed other non-instructional topics (84.6%) and same and alternate work tasks (7.7% each). In the CPC condition, Ms. Brown showed a slight increase in her overall interactions with Bridget (*M* = 3.8%, range 0.0% – 13.1%). Ms. Brown's interactions remained low, stable, and at a level similar to baseline sessions with a slight increase in level toward the end of the study. Seven data points overlap. Despite the small changes in the intervals with interactions, the type of instructional behaviors became more varied. She provided Bridget with adapted work tasks (33.3%), non-instructional behaviors (28.6%), same work tasks (19.0%), academic error correction (9.5%), academic praise (4.8%), and non-academic praise (4.8%).

Ms. Davenport

In the baseline condition, Ms. Davenport's data were low and stable with the exception of two sessions in which the paraprofessional was absent from the classroom. Ms. Davenport interacted with Daria an average of 15.2% of intervals (range 0.0% – 40.9%). These interactions addressed other non-instructional topics (36.7%), adapted work tasks (14.3%), academic error correction (12.2%), academic praise (10.2%), alternate work tasks (8.1%), non-academic error correction (8.1%), non-academic praise (6.1%), and seating arrangements (2.0%). In the CPC condition, Ms. Davenport showed a very small increase in her levels of interaction with Daria (*M* = 15.9%, range 5.9% – 20.8%). This change in level was stable until a slight decreasing trend was observed at the end of the study. Because of the two baseline sessions in which the paraprofessional was absent and teacher interactions peaked, all intervention session data overlap with baseline session data. However, the variety of instructional behaviors Ms. Davenport used

	Ms. Carpenter and Carolina		Ms. Adams and Austin		Ms. Brown and Bridget		Ms. Davenport and Daria	
Variable	BL	CPC	BL	CPC	BL	CPC	BL	CPC
Teacher interactions	7.1	31.8	7.6	11.4	2.3	3.8	15.2	15.9
Work task								
Same	0.0	2.7	3.2	0.8	0.2	0.8	0.2	3.1
Adapted	0.0	9.0	0.0	5.7	0.0	1.3	1.4	5.1
Alternate	0.0	0.0	0.0	0.0	0.2	0.0	1.7	0.0
Reinforcement/praise								
Academic	0.0	11.3	0.3	2.0	0.0	0.2	1.4	2.9
Non-academic	0.0	0.0	0.0	0.3	0.0	0.2	1.4	0.0
Error correction								
Academic	0.0	4.7	1.2	1.8	0.0	0.4	1.3	4.9
Non-academic	0.0	2.6	1.3	1.1	0.0	0.0	2.4	0.3
Seating/grouping	3.8	1.5	0.3	0.0	0.0	0.0	0.8	0.4
Peer arrangement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Behavior plan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	4.2	15.2	2.5	4.1	2.1	1.1	7.8	3.6
Academic engagement								
Consistent engagement	9.7	51.0	15.8	69.2	2.7	36.4	36.1	78.9
Inconsistent engagement	0.0	9.8	4.8	0.0	4.5	6.0	9.9	0.0
Not engaged	90.4	39.2	79.4	30.8	92.8	57.7	53.9	21.1
Student interactions								
Paraprofessional	46.5	68.1	20.5	36.9	27.3	35.4	41.7	14.3
Peer	3.0	10.0	7.1	1.2	15.3	10.3	28.0	22.2
Other	0.9	0.4	1.6	0.6	3.7	0.2	6.3	5.7
Instructional format								
Whole class	36.0	27.0	39.8	52.4	8.5	14.1	28.9	53.6
Small group	0.0	4.0	20.9	28.8	1.2	19.8	12.7	6.5
Individual	0.0	45.5	12.6	7.5	10.3	17.5	16.3	24.0
No instruction	64.0	23.2	26.7	10.8	80.1	48.6	41.6	15.9

Table 3. Descriptive Summary by Participants and Study Condition. BL = Baseline; CPC = Collaborative Planning and Consultation

with Daria noticeably changed. She used adapted work tasks (22.9%), academic error correction (22.9%), non-instructional topics (18.8%), same work tasks (14.6%), academic praise (12.5%), peer arrangements (4.2%), non-academic error correction (2.1%), and seating arrangements (2.1%).

Did Teacher Participation in the CPC Process Increase Academic Engagement?

There was evidence of a functional relation between the general educators' participation in the CPC process and increased student academic engagement (see Figure 2). In the baseline condition, Carolina, Austin, and Bridget showed low academic engagement with a decreasing trend. Daria had variable levels of academic engagement. In the CPC condition, all students had immediately higher levels of academic engagement.

Carolina

In the baseline condition, Carolina averaged 9.7% of intervals of consistent engagement (range 0.0% – 36.0%). She was never engaged inconsistently (0.0%) and was not engaged for 90.4% of intervals. On the third school day, Ms. Carpenter talked through a brief video with the class in which Carolina did engage at higher levels than other baseline sessions (36.0%). After an initial immediate increase in level in the CPC condition, Carolina's engagement decreased briefly before starting an increasing trend. She averaged 51.0% of intervals of consistent engagement (range 28.0% – 75.0%). She was engaged inconsistently in 9.8% of intervals and was not engaged in 39.2% of intervals. The decrease in engagement resulted in one overlapping data point. During the CPC condition, Carolina mirrored much of her peers in the class by retrieving her composition notebook and completing the "bell work" focusing on identifying

sight words rather than proofreading with paraprofessional support. Ms. Carpenter often asked Carolina to read her sight words in the passage or the journaling sentence she copied.

Austin

In the baseline condition, Austin had low levels of academic engagement with a decreasing trend. He averaged 15.8% of intervals with consistent engagement (range 0.0% – 29.5%). He was inconsistently engaged in 4.8% of intervals and not engaged for 79.4% of intervals. In the CPC condition, Austin immediately increased in level and remained above baseline levels with some variability. He averaged 69.2% of intervals consistently engaged (range 41.2% – 90.2%). He was never inconsistently engaged (0.0%) and was unengaged for 30.8% of intervals. During the 29th school day, Austin entered class 20 min late and was pulled from class early by the speech pathologist. He was only in class for 16 min and did not immediately settle into the class activity, which resulted in a decrease in level. During the 44th school day, the class activity involved using the internet to create a Microsoft Sway presentation. The internet was not functioning, which resulted in a decrease in level in engagement as Ms. Adams worked to fix the issue then change activities. During the CPC condition, Ms. Adams provided Austin adapted versions of the class activity packets. Austin worked on the packets at a cluster of desks with other peers with severe disabilities along with the class primarily with the support of the paraprofessional. Ms. Adams occasionally checked in with Austin by asking him questions about the work, praising him for his work, or prompting him to correct his work.

Bridget

In the baseline condition, Bridget showed low and stable academic engagement with very little variability. Bridget averaged 2.7% of intervals with consistent engagement (range 0.0% –

11.7%). She was inconsistently engaged for 4.5% of intervals and unengaged for 92.8% of intervals. In the CPC condition, Bridget showed an immediate, large increase in level of engagement but decreased before returning to initial intervention levels with one overlapping data point. She averaged 36.4% of intervals actively engaged (range 0.0% – 65.6%). She was inconsistently engaged in 6.0% of intervals and unengaged for 57.7% of intervals. During the 39th school day, the observer noted that the rest of the class was exceptionally disruptive and Ms. Brown spent most of the class period attending to the behaviors of peers. Throughout this class, Bridget sat quietly at her desk writing on notebook paper. During the CPC condition, Ms. Brown provided the paraprofessional with the planned materials aligned to class content. The paraprofessional worked with Bridget and two other students to complete the materials along with the class. Although Ms. Brown often sat at a table with students in the class as she instructed, she never sat at Bridget's table and rarely circulated the class to monitor student activities.

Daria

In the baseline condition, Daria showed variability in her levels of academic engagement with higher levels directly related to the classroom instruction (i.e., silent reading). She averaged 36.1% of intervals consistently engaged (range 0.0% – 80.0%). She was inconsistently engaged in 9.9% of intervals and not engaged for 53.9% of intervals. In the CPC condition, Daria showed an increase in level of academic engagement that continued with some variability and consisted of three overlapping data points. She averaged 78.9% of intervals consistently engaged (range 63.4% – 87.1%). She was never inconsistently engaged and was not engaged for 21.1% of intervals. During the CPC condition, Ms. Davenport changed Daria's seat to incorporate her at a table with peers without disabilities and directed a peer to support her if she needed help. While

peers completed their morning work in notebooks, Ms. Davenport created a binder for Daria to keep the printed versions of the adapted morning work. While students completed the morning work, Ms. Davenport frequently circulated through the classroom monitoring and interacting with students including Daria.

Student Interactions

Students' interactions with others were not a primary focus of this study but were measured to provide additional insights into the students' social involvement in the class. Table 4 displays the percentage of interactions by interaction partner across students and experimental conditions. Carolina had few interactions with peers (3.0%) in the baseline condition but more than doubled her interaction (10.0%) in the CPC condition. In the baseline condition, she typically seated herself in a seat on the periphery of the classroom. In the CPC condition, Ms. Carpenter seated Carolina at a table with peers, which facilitated interactions. Interactions with the paraprofessional also increased from 46.5% to 68.1%. In the baseline condition, the paraprofessional often talked to Carolina about where to sit, the papers she was folding, the items in her backpack, and when to leave class. In the CPC condition, the paraprofessional often talked to Carolina about getting class materials, reading the day's passage, completing work in her notebook, and reading sight words as assigned by Ms. Carpenter. Interactions with others (e.g., speech pathologist) remained under 1.0% of intervals throughout the study.

Interactions with peers decreased for Austin—from 7.1% in the baseline condition to 1.2% in the CPC condition. Although Austin's seating arrangement did not change across conditions, there were notable changes in the interactions pertaining to the adapted materials provided by Ms. Adams in the CPC condition. In this condition, he had an individual copy of the adapted materials and higher levels of academic engagement. His interactions with the

paraprofessional increased from 20.5% in baseline to 36.9% in the CPC condition. The paraprofessional asked more about his work tasks and followed up with the questions Ms. Adams asked to the whole class. Interactions with others remain around 1.0% throughout the study.

Bridget also had more interactions with peers in the CPC condition (15.3%) as compared to the baseline condition (10.3%). During baseline sessions, Bridget often free wrote on notebook paper and frequently sought attention from others including peers by directing others to look at her work (e.g., holding her work up to be viewed, tapping a shoulder, making eye contact and pointing to her work). During the CPC condition, Ms. Brown provided work tasks via the paraprofessional that were often completed independently alongside others. Bridget's interactions with the paraprofessional slightly increased from 27.3% to 35.4%. In the baseline condition, the paraprofessional interacted with Bridget about her notebook papers through smiles and brief phrases like "good job." In the CPC condition, the paraprofessional interacted with Bridget about her notebook papers as well as how Bridget needed to complete a task and her progress with the task. In the baseline condition, interactions with others primarily consisted of interactions with a study observer who was collecting data. When this relationship was detected by the first author (around the introduction of the CPC process), study observers changed and interactions with others decreased.

Like Austin and Bridget, Daria's interactions with peers decreased from the baseline condition (28.0%) to the CPC condition (22.2%). In baseline, Daria sat at a table in the classroom with the paraprofessional and another peer with severe disabilities. Daria often did not receive a work task and instead talked with the peer during class. In the CPC condition, Ms. Davenport moved Daria's seat to a table with other peers and provided work tasks in which

Daria was more engaged. Daria's interactions with the paraprofessional also decreased from the baseline condition (41.7%) to the CPC condition (14.3%). In baseline, the paraprofessional sat either next to or directly across from Daria at a table. In the CPC condition, the paraprofessional moved away from Daria, monitored more students in the class, and assisted Ms. Davenport with small tasks (e.g., picking up papers from the copy room, passing out materials) during class. Daria's discussion with the class during the morning meeting each day was coded as interactions with others and varied in number of intervals depending on the duration of her participation.

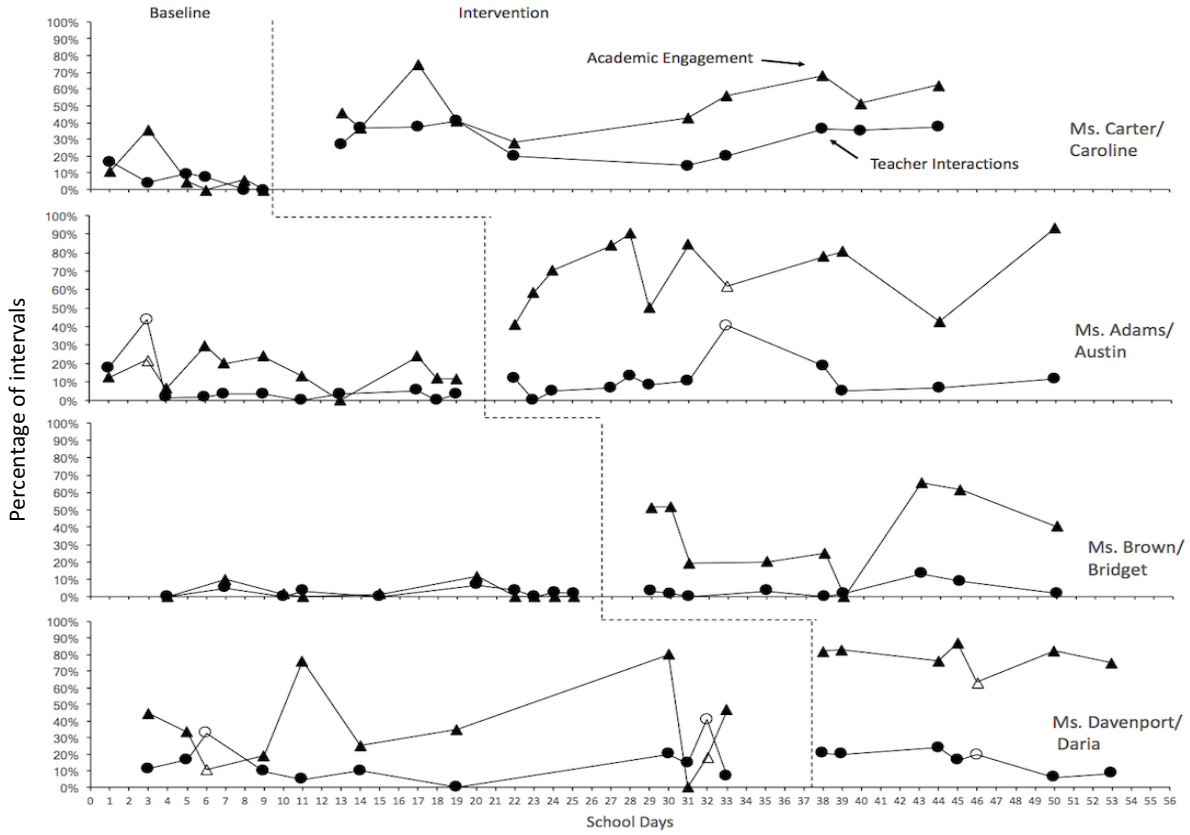

Figure 2. Percentage of intervals with teacher interactions (closed circles) and student academic engagement (closed triangles). Open icons indicate sessions in which the paraprofessional was absent from the class.

Instructional Format

The instructional format also was not a primary variable of this study but was measured to describe the students' classroom experiences (see Table 3). In the baseline condition, students spent large portions of the class without instruction ranging from 26.7% to 80.1%. After the onset of the CPC process, the levels of no instruction decreased for all students ranging from 10.8% to 48.6%. The different types of instructional formats changed across students as well. In baseline, Carolina received instruction in a whole class format in 36.0% of intervals and did not receive instruction in small-group or individual formats. Austin received whole-class instruction in 39.8% of intervals, small-group instruction in 20.9%, and individual instruction in 12.6%. Bridget received whole-class instruction in 8.5% of intervals, small-group instruction in 1.2%, and individual instruction in 10.3%. Daria received whole-group instruction in 28.9% of intervals, small-group instruction in 12.7%, and individual instruction in 16.3%.

In the CPC condition, Carolina received instruction in a whole-class format in 27.0% of intervals, small-group instruction in 4.0%, and individual instruction 45.5%. Austin received whole-class instruction in 52.4% of intervals, small-group instruction in 28.8%, and individual instruction in 7.5%. Bridget received whole-class instruction in 14.1% of intervals, small-group instruction in 19.8%, and individual instruction in 17.5%. Daria received whole-group instruction in 53.6% of intervals, small-group instruction in 6.5%, and individual instruction in 24.0%.

Social Validity

Table 4 displays general educators' ratings of social validity survey items. All general educators strongly agreed that they could use what they learned to incorporate other students with severe disabilities into their lessons. All general educators agreed or strongly agreed with 11

of the 15 positive statements regarding the intervention. Overall, they indicated the time required was reasonable, they were effective in their responsibilities, they could use what they learned with other educators, they were motivated to continue using the CPC process, the students benefitted academically and socially, and they enjoyed the project overall. "I would need ongoing consultation to continue the CPC process" received the lowest average rating across teachers ($M = 3$). They all disagreed or strongly disagreed that were not interested in using the CPC process again and that it negatively impacted other students in the class.

Findings from the postintervention interviews indicated that general educators reported that (a) the CPC process provided them clarity on how to include the student with severe disabilities into lessons, (b) the students benefitted from the inclusive instruction, and (c) they learned ways to include students with severe disabilities into their lessons (see Table 5 for selected interview quotes). Ms. Carpenter stated that the consultation to support Carolina held her accountable in her own planning for the class. Ms. Brown said that the Student Support Plan meeting with Ms. Williams provided her with information about Bridget that helped her plan and gave her "more of a grasp on where I needed to go." All of the general educators said they needed time to collaborate and that collaboration with the special educator could be possible given enough time. Ms. Adams reflected on the impact the meetings had on her planning and her instruction as a teacher by saying,

> I think that before going through this study, I was at a total loss as to what Austin could or would be interested in participating in. And after the study seeing the difference even just in changing the materials or coaching for proximity or whatever the change was…that made such a radical and noticeable difference immediately that it didn't feel like taking away from planning. It felt like I was getting so much more feedback and coaching.

She also recognized time as a barrier to collaborative planning in her building but contemplated the role that attitudes played as a barrier. She stated, "I was pitched the school as 'you have so

Social validity item	Ms. Carpenter	Ms. Adams	Ms. Brown	Ms. Davenport
The amount of time required for the CPC process was reasonable.	Strongly agree	Agree	Agree	Strongly agree
I feel I was effective in my responsibilities.	Strongly agree	Agree	Agree	Agree
I would need ongoing consultation to continue the CPC process.	Neutral	Agree	Neutral	Disagree
Developing the Student Support Plan as a team was important to the success of creating the Quick Plan lessons.	Strongly agree	Agree	Strongly agree	Neutral
Consultation was important to the success of developing the Quick Plan lessons.	Strongly agree	Agree	Agree	Neutral
I could use what I learned to incorporate other students with severe disabilities into my lessons.	Strongly agree	Strongly agree	Strongly agree	Strongly agree
I could use what I learned to teach other educators how to incorporate students with severe disabilities into lessons.	Strongly agree	Agree	Agree	Agree
I am motivated to continue using the CPC process to incorporate students with severe disabilities into my lessons.	Strongly agree	Agree	Agree	Strongly agree
I am **not** interested in using the CPC process again.	Strongly disagree	Disagree	Neutral	Strongly disagree
The CPC process was a good way to address the instruction of students with severe disabilities in inclusive classes.	Strongly agree	Strongly agree	Agree	Strongly agree
The CPC process gave me clarity on how to support the student with severe disabilities in my class.	Strongly agree	Strongly agree	Agree	Strongly agree
The CPC process aligns with the goals of the school in supporting students with disabilities.	Strongly agree	Neutral	Agree	Agree
I would know what to do again if I was asked to plan instruction for a student with severe disabilities in inclusive classes.	Strongly agree	Agree	Agree	Strongly agree
The student with severe disabilities benefitted socially from the CPC process.	Strongly agree	Agree	Agree	Agree
The student with severe disabilities benefitted academically from the CPC process.	Strongly agree	Strongly agree	Agree	Strongly agree
The CPC process **negatively** impacted other students in the class.	Strongly disagree	Disagree	Disagree	Disagree
Overall, I enjoyed participating in this project.	Strongly agree	Strongly agree	Agree	Agree

Table 4. Social Validity Ratings from General Educators

much autonomy' and 'you have so much freedom and you'll never have anyone…looking over your shoulder.'…The way I see that manifested is there's no accountability." She recalled an exchange with another teacher in the copy room. The other teacher expressed surprise and intrigue at the adapted materials Ms. Adams was copying. Ms. Adams lamented, "I don't think it would ever be assumed in this building that you were supplementing or changing your instruction to meet other needs of students."

General educators said they used adaptations from the plans after the completion of the study. However, they did indicate a desire for continued consultation and a need for that consultation under new circumstances. Ms. Adams stated that she would need more time to collaborate with the special educator if students had more challenging behaviors and would like feedback from the school's special education coach. Ms. Brown stated, "I think it's just opened my eyes to what I need to continue, and I just wish I still had, you know, like here's some ideas or 'Try this next' type thing." Ms. Davenport suggested that the supports continue all year and be connected to data reviewed on students' progress. Ms. Carpenter said she felt she knew where to start in providing support to other students with severe disabilities but would need more support in individualizing to a new student.

Topic	Comment
Supports prior to CPC	Ms. Carpenter: "To be honest, I really didn't have anything in place. I felt bad because I didn't really know how to include her in the class. And so for the most part, she just kind of sat with her parapro." Ms. Davenport: "It was more like buddy work. She didn't really have anything to write on her own."
Impact on student's needs	Ms. Carpenter: "I think maybe I was able to interact with her more because I was giving her positive feedback and going to make sure that she was completing the work that we provided for her…and so I feel like she became more part of the class than she was before." Ms. Davenport: "Of course I have attended her IEP meeting. I feel like a lot of times those are very general and not really specific. But it [the intervention] allowed me to know specifically what she needed and how what I was doing and could match up with what she needed." Ms. Brown: "After…meeting with [researcher]…and Ms. Williams as well and having our initial meeting kind of talking about things that she [Bridget] could and couldn't do and what to look for. I felt like I had more of a grasp on where I needed to go."
CPC alignment to/impact on existing planning	Ms. Carpenter: "It kind of helped me…get better at staying on task with the things I needed to do like making the copies that I need to make because sometimes I would wait to last minute to do it. And I made sure I had [it] done before because we would actually go through it." Ms. Davenport: "It just made me kind of think ahead in terms of testing in terms of things I needed to print off in terms of modifying things. It made it of course a little bit more work, but I knew that she was going to actually benefit instead of just sitting there." Ms. Adams: "I would say well technically [it] took away from planning time...it made class feel so much smoother and so much more authentic to a child's needs and to what Austin deserved in class."
Use with other students	Ms. Davenport: "So everything I gave her I was able to give to the other student and they're kind of on the same level. I had adapted a little bit more for the other student, but I was able to use those exact same things. I didn't have to come up with something new." Ms. Adams: "There are five other students who traveled with Austin. And so, for those inclusion materials, they were able to be transmitted to every other student. Though, they have different learning needs."
Increasing teacher interactions	Ms. Carpenter: "I feel really good because…that was the whole point I think of her being here is that she will feel a part of the class. I really didn't know how to do that before." Ms. Davenport: "Because she was working on generally the same thing that we were working on I could kind of help her. I could guide her." Ms. Brown: "I think it opened up to Bridget being more comfortable with me."

	Ms. Adams: "I think there was always more that I could do in terms of interacting with Austin…I wish there were 10 of me that I could run around and get to everybody."
What could have helped CPC/made it easier	Ms. Carpenter: "It wasn't like I had to go out and get additional resources. Everything that we used...they were things that I was already using my other students. So I think that it was great." Ms. Brown: "Ideal world I would have more time to sit down and actually plan out with other teachers."
Using special educator instead of researcher	Ms. Davenport: "We can do it. We just need time to actually sit down together…and plan. We just don't have a lot of time for that." Ms. Adams: "I would love that. I would say that it would definitely necessitate that gen ed teachers had their plans and materials ready to go in advance so that a special education teacher could look over it. Maybe. Pre-introduce something in their classroom talk about in advance, review it, keep textbooks in the room if they needed. None of those things are currently happening."
Use in the future	Ms. Carpenter: "If you were talking about kicking it up a notch, then I may need some help…but at least I have something to start with 'cause I didn't have anything." Ms. Davenport: "When we first started that study, I would just send my plans to [researcher], and she would adapt it for me. But now that it's over I've been doing it myself, and I kind of use like what she had as a guideline." Ms. Adams: "Those are all the papers…so that's a good point of reference. For instance, we did stations last week, and I needed to look back and see what had been a good idea for stations." Ms. Adams: "Does that reflect because of our limited planning time? Is that because we have such a broad array of students from 70 different backgrounds who need so many different things? ...I think all those things are true. But in terms of how our building combats that or addresses that or seeks to support teachers in that…there is little if any intentionality on that front."
General comments	Ms. Carpenter: "When I tell you it really made a difference, it really did. I don't think that I would have gotten as close to Carolina if we didn't have that because I really didn't know how to…I just didn't know." Ms. Davenport: "Doing this really has shown me how to incorporate them into what we're doing." Ms. Adams: "For me it was powerful too to realize how little gen ed students had expected of my inclusion students up until that point. And how that changed so dramatically when my special education students had materials that were the same information just reflected in a different way."

Table 5. Social Validity Interview Comments by Topic

CHAPTER 4

DISCUSSION

Creating inclusive environments where teachers have the tools to be active instructors for students with severe disabilities—and where those students receive equitable instruction to be active participants—requires collaboration. Many students with severe disabilities receive some part of their education in a general education class. Yet, in many instances, professionals with little to no specialized training (i.e., general educators or paraprofessionals) are tasked with providing their individualized instruction (Carter et al., 2005). I evaluated the effectiveness of a collaborative planning framework with ongoing consultation to increase the interactions general educators had with students with severe disabilities in their class. I also examined its impact on the students' academic engagement consistent with the instruction of the general class. My findings extend the literature by providing new insights into the implementation and impact of a collaborative planning intervention for general educators of middle school students with severe disabilities.

First, prevailing practices may not be sufficient for ensuring a quality education for students with severe disabilities in general education classes. With the exception of Bridget, students had attended their class for nearly two months prior to the study. Despite access to students' records and communication with the students' special educator, general educators seldom engaged with the focus students. During the baseline condition, when interactions did occur, they were often non-instructional in focus. Moreover, all four students rarely engaged in tasks consistent with the general class instruction during baseline. This finding is consistent with both descriptive studies (Carter, Cushing, Clark, & Kennedy, 2005; Carter, Sisco, Brown,

Brickham, & Al-Khabbaz, 2008; Chung et al., 2012) and the baseline patterns of prior inclusive studies (e.g., Brock & Carter, 2016). These data warranted an intervention focused on supporting classroom teachers to provide instruction that increased the active engagement of the students.

Second, this study shows the beneficial impact of a collaborative planning intervention with ongoing consultation. Drawing upon similar support strategies found to be effective with elementary students with severe disabilities (e.g., Hunt et al., 2003), I introduced an intervention package to middle school general educators focused on increasing teacher interactions with the students with severe disabilities. Few prior studies have equipped general educators to function as primary instructors of students with severe disabilities in general education classes. For example, Biggs et al. (2017) established collaborative planning as a method to increase peer supports for middle school students with disabilities who used augmentative or alternative communication (AAC) devices. However, they did not involve the general educator beyond the initial planning meeting. In a study by Kennedy, Cushing, and Itkonen (1997), special educators worked daily with general educators to suggest peer support strategies for upcoming lessons. However, the general educators' involvement did not include the actual delivery of planned supports. I found that general educators can take an active role in planning and delivering supports to students with severe disabilities to promote academic engagement.

Third, the intervention package was not without challenges. Although, this study suggests collaborative planning with ongoing consultation can have a positive impact on teacher interactions and student academic engagement, several elements require closer consideration. Each class included a paraprofessional assigned to support the focus student. When the paraprofessional was absent, teacher interactions were often much higher than sessions in which the paraprofessional was present. This finding aligns with previous research suggesting

paraprofessionals assigned to support a student with severe disabilities specifically can inhibit general educator interactions (e.g., Fisher & Pleasants, 2012; Giangreco, Broer, & Edelman, 2001). Clarifying roles and responsibilities in collaborative planning could alleviate this effect by empowering general educators as the primary instructor for students with disabilities and reinforcing paraprofessionals as a supplemental and secondary support (Biggs, Gilson, & Carter, 2016). I also found that student engagement seemed to depend on the extent to which general educator's engaged in lesson planning for any of the students in her class. When the general educator did not assign tasks to the class, it was not possible for students to be engaged. General educators rarely provided more than just a couple days of lesson plans during the ongoing consultation (i.e., Quick Plan meetings), suggesting that they did not always have explicit plan to adapt. Since the intervention did not address the planning of general instruction and only adapted the lesson plans presented at these meetings, greater gains in student academic engagement may have been observed if lessons for every day were adapted during the consultations. For example, Ms. Davenport planned her ELA class consistently, and Daria engaged in the planned activities at high, stable levels. Ms. Brown planned her Science class inconsistently and often changed or abandoned her lessons in the midst of the class. This irregularity led to low and variable engagement for Bridget. Supporting the importance of consistent lesson implementation, Corso, Bundick, Quaglia, and Haywood (2013) proposed a model for understanding student engagement and included academic content (i.e., subject area/topic and teacher pedagogy) as a primary factor in predicting student engagement.

Fourth, feedback from participating general educators affirmed the acceptability and social validity of this intervention within middle school, general education classes. General educators said the time required to collaborate was reasonable, the collaboration allowed them to

be effective in their responsibilities, the collaboration process was a good way to address instruction for students with severe disabilities, and students benefitted academically and socially from educator participation in the collaboration. All four general educators reported their planning and instruction benefitted from the intervention. Ms. Carpenter said the ongoing consultation held her accountable for planning her class lessons. Ms. Adams said the meetings and adaptations did increase the time she spent planning, but it provided Austin with meaningful instruction that allowed the class to run more smoothly. Additionally, general educators reported using the adaptations and supports after consultation ended. Ms. Carpenter, Ms. Davenport, and Ms. Adams each stated that the plans from the intervention served as a guide for making adaptations to new lessons independently. These findings suggest general educators may be motivated stakeholders in inclusive education. However, their involvement in providing instruction to students with severe disabilities needs to be supported through collaboration with other educators who have expertise on the students' support needs and curricular adaptations.

Limitations

Several limitations of this study are important to consider. First, I (a researcher) served as the person providing collaboration and ongoing consultation to the general educators. Special educators who attended the Student Support Plan meetings contributed important information about the student and his/her needs but were not involved afterwards. They could offer a deeper understanding of the students' abilities as they pertained to the classroom instruction, assist in adapting lesson materials, and pre-teach key information. Furthermore, each general educator said they could continue collaborating with the special educator if they had time. Ms. Davenport said, "We can do it…we just don't have a lot of time for that." Ms. Brown said the special educator would be able to share "more in-depth activities" and create materials together with

time to plan. Ms. Carpenter stated previous co-planning relationships with special educators had not been productive but believed the CPC process could be used with the current special educator effectively. Ms. Adams shared ideas of how she would like to work with the special educator but expressed concerns about how that would work. She said, "None of those things are currently happening." As a result, it is still unclear whether a special educator could serve in the role I assumed. Future research should focus on the ways special educators could be trained and supported in collaborating with general educators to create a more natural and sustainable impact.

Second, generalization and maintenance data were not collected formally. I observed general educators use adapted materials and engage with other students with severe disabilities in the class, but I did not measure generalization specifically. As mentioned previously, general educators often did not have lessons planned for the upcoming week at the time of the Quick Plan meetings. There were observations conducted on days the general educator had not received support in adapting materials or specifying supports for the focus student. During observations on these days, general educators continued to provide supports to and adapted materials for the focus students. This anecdotally suggests general educators were able to generalize and maintain the use of the Student Support Plan without direct support from the researcher. In future research, generalization and maintenance data should be measured formally to assess the extent to which general educators continue the use of the plan.

Third, I did not include measures of students' skill acquisition in the general education class. The Individuals with Disabilities Education Act (IDEA) ensures the right for students with disabilities to receive their education with general education peers and also emphasized learning within general education classes. Monitoring students' progress on grade-level, individualized

skills ensures students receive a high-quality education focused on positive, skill-based outcomes. Although learning likely occurs when students are engaged academically, academic engagement does not equate with active learning (i.e., skill acquisition). Future research should assess acquisition of content-based skills to make certain students are progressing in the general curriculum as fully integrated members of the class.

Implications for Research

The results of this study highlight some important implications for researchers in the field of inclusive education. First, there is a need for better measures of procedural fidelity for highly individualized interventions like the one used in this study. Fidelity measures should accommodate the variable conditions (e.g., schedule changes, varying day-to-day activities) when conducting applied research in general education classes. In this study, I created checklist to document planned components of each consultation meeting based on the general educators' prepared lessons. However, educators planned their lessons with varying degrees of detail. The fidelity tool captured whether or not the planned supports were provided in each consultation meeting for each prepared lesson but did not also capture whether all of the supports they planned were actually provided. For example, while Ms. Adams regularly prepared detailed lesson plans and materials, Ms. Brown rarely prepared materials and often did not know what her next lesson would be. Although I provided support to each educator for each prepared lesson as planned, Ms. Adams received more detailed support aligned directly to her prepared lessons compared to Ms. Brown. This was not captured through the fidelity checklist. In future research, fidelity measures that accommodate individualized interventions could help to identify specific factors that led to any positive changes through collaboration.

Second, despite most of the teachers' prior experience having students with severe disabilities in their classes, little, if any, collaboration or communication was occurring with their special educators. General educators knew very little about the students' abilities and often left instruction entirely to the paraprofessional. Communication and collaboration among the general educators and the special educators was virtually non-existent. Therefore, I can only suggest that the CPC process is one means for improving student engagement in general education classes. Future research should make efforts to increase the ongoing collaboration among special and general educators.

Third, it is important for the generalizability and sustainability of the intervention to include the existing special educators in providing consultation to the general educators. To carry out this first evaluation of a collaborative planning framework in general education classes, I provided consultation to general educators in the role of the special educator. There is a need for further exploration on how participation from the existing special educators can enhance the collaborative planning process and what factors within these relationships (e.g., attitudes, knowledge) could impair collaboration. Future research should include the current special educator in the ongoing consultation to generalize across more students and sustain positive outcomes.

Implications for Practice

This study demonstrated that collaboration for inclusion does not automatically occur. This study suggests that an explicit framework and dedicated time to collaborate holds promise for clarifying the role of the general educator as the instructor in inclusive classes and increasing student academic engagement. Findings from this study have several implications for practice. First, collaborating teachers could benefit from the low-cost and low-effort strategies used to

adapt lessons for students with severe disabilities. For example, Ms. Adams created student packets nearly every day of instruction. Frequent adaptations for Austin's packet included enlarged font, visual supports for the content (e.g., images of key people and vocabulary), and simplifying the type of responses (e.g., from open-ended note taking to fill-in-the-blank guided notes). Ms. Davenport's morning work was adapted with sentence stems for journal prompts and bolded text to signify context clues of an underlined word. General educators were familiar with these types of strategies but benefitted from consultation on when and how to use them in the context of their classes. In addition to training on adaptations and differentiated instruction, teachers need specific support on applying these concepts directly to their own lessons.

Second, both general and special educators are vital players in creating inclusive classrooms where students with severe disabilities receive meaningful instruction. In this study, general educators served as experts on the grade-level content and expectations within their class routines. Special educators served as experts on student strengths and needs. Together, with guidance from a researcher, educators were able to develop Student Support plans as a first step in the collaborative partnership. With continued support, general educators were able to apply these plans to their ongoing lesson plans and increase student engagement in their classes. Collaborating teams of general and special educators need materials that guide them through the initial stages of collaboration and into sustaining that support over time.

Third, district administrators should support collaboration among general and special educators through professional development opportunities on collaboration and overlapping planning time dedicated to co-planning. In this study, implementation of the collaborative and consultative meetings required time for the educators to meet. However, with the collaborative planning framework, meetings were relatively brief and efficient. In practice, administrators need

to provide educators with training opportunities on conducting collaborative planning meetings and the time to then collaboratively plan.

Fourth, teacher preparation programs should provide opportunities to develop collaborative partnerships while pre-service educators are still in training. With an increasing number of students with disabilities receiving some or most of their education in general education classes, it is in the best interest of teacher preparation programs to emulate the realities their students will encounter after graduation. Programs could offer: (a) overlapping coursework for students in general education programs and special education programs as an opportunity to collaborate; (b) coursework specific to collaboration, inclusion, and access to the general curriculum; and (c) practical experiences including competencies in collaboration among educators.

Conclusion

Findings from this study contribute to the literature on collaborative planning for inclusive, middle school classrooms. Results demonstrate collaborative planning with consultation can increase interactions between general educators and students with severe disabilities, as well as engage the students more fully as active members in their classes. General educators confirmed the planning process as acceptable and feasible, which benefitted their teaching and student involvement. This intervention holds promise to support general educators in cultivating inclusive classes better able to meet the needs of all students.

Appendix A. *School flyer*

VANDERBILT
PEABODY COLLEGE

Overview of the *Collaborative Planning with Consultation Project* for Students with Severe Disabilities

Researchers at Vanderbilt University are conducting a project focused on improving the academic and social learning of middle- and high-school students with severe disabilities in general education classes. The project will involve using a collaborative planning approach to support teachers in providing meaningful academic experiences and positive interactions for students in their classes. We will be helping school staff implement the intervention and will provide training, support, and compensation for their time involved in the project.

For this exciting project, we are looking for students who:

- ☐ Are enrolled in grades 5 through 12
- ☐ Receive special education services under primary or secondary disability labels of intellectual disability, autism, or multiple disabilities
- ☐ Are or have been eligible to participate in the alternate assessment
- ☐ Attend at least one general education class daily or with block scheduling
- ☐ Have at least one academic goal on his/her current IEP

Benefits for general education teachers:

- ☐ Collaboration in developing explicit strategies to support the student in various instructional activities
- ☐ Regular consultation to incorporate strategies into weekly lesson plans
- ☐ Compensation for time and efforts

Do you work with students who might benefit from being a part of this project?

Are you interested in learning more?

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Appendix B. *Planning framework guide*

A Planning Framework for Educational Teams to Use with Students with Severe Disabilities in General Education Classrooms

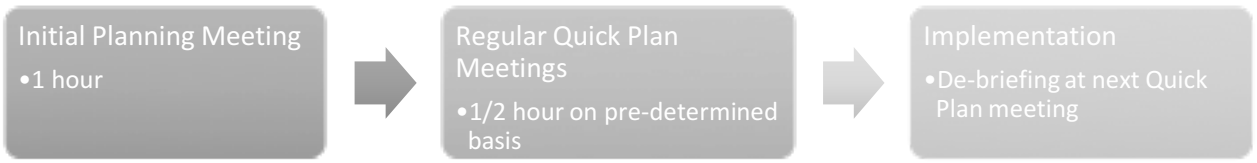
The educational team works together to provide appropriate and meaningful instruction to students with severe disabilities. This can be a challenge when (a) time to communicate among the team is limited, (b) background knowledge varies among members, and (c) classroom content is ever-changing. This planning framework provides easy-to-follow steps in developing meaningful instruction for students with severe disabilities in the context of the general education class quickly and efficiently. This document is meant to guide the discussion and completion of the Student Support Plan (Steps 1-3) and the individual Quick Plan meetings (Step 4).

Step One: Reviewing Goals and Roles

What are the goals of this collaborative planning framework?

- To support the general educator and other support personnel in addressing the needs of students with severe disabilities in his/her general education classroom
- To create appropriate and meaningful ways the student with severe disabilities can participate socially and academically in the general education class
- To guide the educational team in identifying student goals and instructional strategies to support the student's ability to engage and learn in the general education class
- To incorporate the student goals and instructional strategies into the ongoing instruction of the general education class

What are the steps of this collaborative planning framework?



What are our roles?

What is my role as the researcher/facilitator?

- *To guide the team through the planning framework*
- *To support the team in decision-making*
- *To attend 1-hour Initial Planning meeting*
- *To schedule and attend regular Quick Plan meetings*

What is my role as the general educator?

- *To provide expertise on the instruction in the general education class*
- *To offer suggestions on feasibility and acceptability of the individualized plans*
- *To prepare general education class lessons as usual for Quick Plan meetings*

- *To attend 1-hour Initial Planning meeting*
- *To schedule and attend regular Quick Plan meetings*

What is my role as the special educator?
- *To provide expertise on the student and his/her instructional needs*
- *To offer suggestions on appropriate strategies and supports for the student*
- *To attend 1-hour Initial Planning meeting*

What is my role as the paraprofessional/support staff (if applicable)?
- *To provide insights on the student and how he/she learns and interacts*
- *To share how student currently engages in the general education classroom*
- *To offer suggestions on the acceptability of the individualized plans*
- *To attend 1-hour Initial Planning meeting*

Step Two: Important Information & Identifying the Student's Goal

What are the student's strengths and interests?
(Guided by the Special Educator)
- What is the student good at doing?
- What does the student like to do?
- What is the student interested in?
- Does the student like to be around others or by him/herself?
- Does the student like attention/tangibles/activities/sensory?

What are the student's present levels of performance in core academic skills?
(Guided by the Special Educator)
- What is the student's reading level? Sight words? Letter recognition?
- What is the student's math level? Number sense? Counting? Basic operations?
- What is the student's writing ability? Handwriting? Composition?

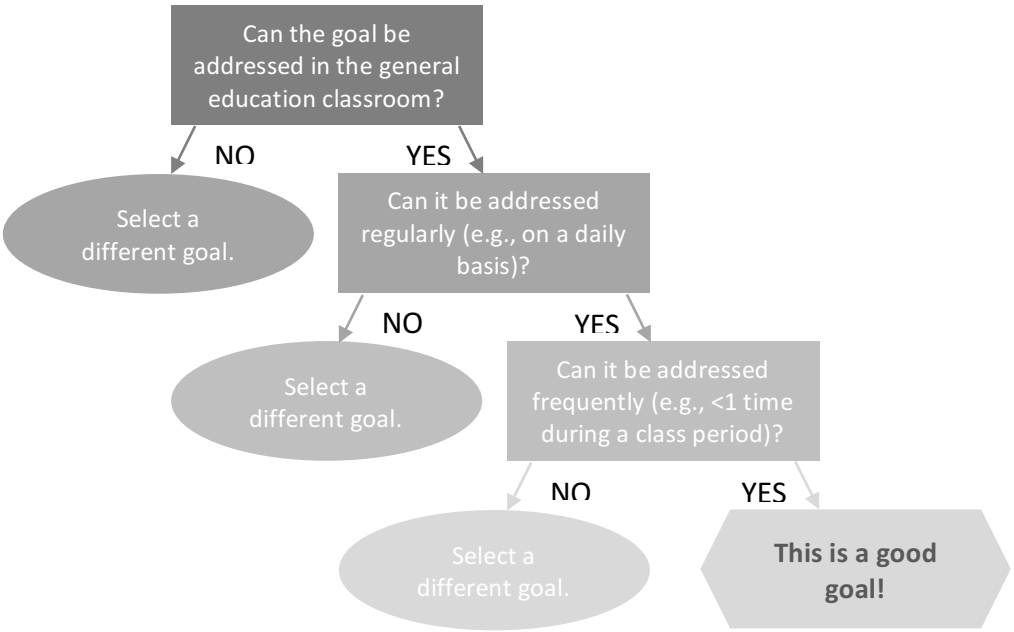
What are helpful strategies when working with the student?
(Guided by the Special Educator)
- Receptive Communication: How does the student best receive information?
    - Typical conversation-like verbal directives?
    - Brief, direct phrases?
    - Visuals/pictures?
- Expressive Communication: How does the student best communicate?
    - Verbal speech?
    - AAC?
- Seating Arrangement: Where/how is the student best seated to see/hear/interact?
    - Near the front/back of the class?
    - Next to central in the classroom?
    - Specialized desk or chair at appropriate height with appropriate support?
- Providing Assistance: If the student does not respond to a direction/question, how can someone best prompt or help the student?

    - Repeat the direction/question?
    - Gesture toward the correct response or behavior?
    - Model the correct response or behavior?
    - What accommodations/modifications from the IEP may be relevant?
- Social Supports: What supports are needed to help the student engage with peers socially?
    - Does the student have friends in the class and/or feel welcome?
    - Does the student need training or scripts on how to socialize with peers?
- Behavioral Supports: What behavioral supports help the student stay on task and engaged?
    - Does the student respond well to praise? From a teacher? From peers?
    - Does the student use a system like First-Then visuals or token boards?

What are the academic goals on the student's current IEP?
(Guided by the Special Educator) This can include goals addressing behaviors needed to be engaged in the academic content such as hand-writing or selecting from an array.

What other academic goals (not listed on the IEP) is the student currently working on?
(Guided by the Special Educator)

Which goals can be addressed in the context of the general education class?
(Guided by the General Educator)



What are the specific skills/words/numbers/concepts needed for the goal?
(Guided by the team)

- If numbers, what numbers?
- If words, what words?
- If concepts, which concepts?
- If behaviors, which behaviors?

How can the student demonstrate the selected goal in class?
(Guided by the team)

- What would practicing the goal look like? For the student? For the instructors?
- What would be said? What would be done?
- Would the student respond verbally, using a device, by pointing/selecting or by writing something down?
- Would opportunities be presented verbally, on the board, on paper, or some other way?

Step Three: Identifying Classroom Routines & Supports

Ask the following questions for each of the possible class routine: (a) *at the beginning/end of class*, (b) *whole class instruction*, (c) *whole class discussion*, (d) *small group work*, (e) *independent work*, (f) *class presentations*, (g) *lab activities*, and (h) *tests/quizzes.*
(Guided by the team)

- What are the general expectations of the routine for the typical student in the class?
- What supports are needed to help the student communicate: academically and socially?
- What assistive technology is needed to help the student engage? AAC?
- What physical supports or arrangements are needed to help the student hear/see/move during the routine?
- How can peers or paraprofessionals help the student participate and engage?

Keep in mind the ways in which the target goal can be addressed during each of these typical routines.
(Guided by the team)

- For example, counting skills can be practiced by helping distribute materials during the beginning of class or small group activities.
- Reading sight words can be practiced during independent work with flash cards or during whole class instruction when taking notes.

Schedule the regular Quick Plan meetings with the General Educator and Researcher.
(Decided by the General Educator and Researcher)

- Ensure upcoming lesson plans will be ready and present at each meeting.

-----This concludes the Initial Planning Meeting-----

Step Four: Complete the Quick Plan Document

This step is to be completed during regularly scheduled Quick Plan meetings approximately 30 min in duration and consisting of the general educator and researcher.

Prepare the Quick Plan Prior to the Meeting.

(Completed by the General Educator and Researcher)

- Researcher
    - Add the target goal to the Quick Plan form after the Student Support Plan meeting.
    - Email document template with target goal to General Educator
    - Email sample Quick Plans to General Educator
- General Educator
    - Check the class activities for each day in the “Routines” column
    - Write an outlined description of each in the “Lesson Details/Class Expectations” column

What strategies/supports can be used by the general educator with the student during each activity?

(Guided by the General Educator and Researcher)

- Refer to the Student Support Plan
- If the expectations for the student differs from that of the whole class, what are the expectations of the student?
- What materials are needed for the student to participate in the activity (even if they are the same as the whole class)?
- What supports are needed for the student?
    - Communication support?
    - Assistive technology?
    - Physical supports?
    - Peer or paraprofessional support?
- How can the goal be addressed?
- What are the opportunities to reinforce/praise the student?
- How can the student be corrected or prompted if needed?
- How will the student be seated or grouped?
- What aspects of the behavior plan are relevant, if applicable?

Appendix C. *Student support plan document*

Student Support Plan

Student: _____ Team: _____

This document summarizes: (a) ***important information*** pertaining to the student and (b) supports the student may need to be successful in the everyday general education classroom ***routines***.

Complete this form using the *Planning Framework for Educational Teams* as a guide.

Important Information

Student's Strengths and Interests

-
-
-
-
-
-

Student's Present Levels of Performance in Core Academic Skills

Reading	Math	Writing

Helpful Strategies

Communication – Receptive	Communication – Expressive	Positioning/ Seating in Room	Providing Assistance	Social Supports	Behavioral Supports

The Goal

Target Goal	Specifics of the Goal	What the Goal Looks Like

Routines

At the beginning/end of class…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During whole class instruction…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During whole class discussion…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During small group work…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During independent work…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During presentations…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During lab activities…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

During tests/quizzes…

General expectations of the routine	Student supports for participation in the routine			
	Communication	Assistive Technology	Physical	Peers/Paras

Appendix D. *Quick plan document*

Unit: _____ Dates: _____ Student: _____

Quick Plan

This document summarizes how the student will be an active and supported participant in the class lessons and activities each day. For each class period/day, indicate the types of ***routines*** planned, the ***details*** of each routine, any ***adaptations*** the student may need for a routine, ***materials*** the student will need, and any additional ***supports*** the student may need. Additionally, indicate how the *target goal can be addressed*, opportunities to *reinforce/ praise* the student, how to *correct or prompt* the student, how the student will be *grouped*, and any reminders regarding the student's *behavior plan* (if applicable).

Target Goal

Monday

Routines *(Check the routines planned for today's class)*	Lesson Details/ Class Expectations *(List the specific activities and content covered in each routine)*	Adaptations/ Student Expectations *(List how the* Lesson Details *differ for the student, if at all)*	Materials for Student ▪ Text/Books? ▪ Worksheets? ▪ Equipment/Tech? ▪ Graphic Organizers?	Supports for Student ▪ Communication? ▪ Assistive Tech? ▪ Physical? ▪ Peers/Paras?
○ Whole Class Instruction ○ Whole Class Discussion ○ Small Group Work ○ Independent Work ○ Presentations ○ Lab Activities ○ Testing/Quiz				
Presenting the goal?	Reinforce or praise?	Correct or prompt?	Seat or group?	Behavior plan?

Tuesday

Routines *(Check the routines planned for today's class)*	Lesson Details/ Class Expectations *(List the specific activities and content covered in each routine)*	Adaptations/ Student Expectations *(List how the* Lesson Details *differ for the student, if at all)*	Materials for Student ▪ Text/Books? ▪ Worksheets? ▪ Equipment/Tech? ▪ Graphic Organizers?	Supports for Student ▪ Communication? ▪ Assistive Tech? ▪ Physical? ▪ Peers/Paras?
○ Whole Class Instruction ○ Whole Class Discussion ○ Small Group Work ○ Independent Work ○ Presentations ○ Lab Activities ○ Testing/Quiz				
Presenting the goal?	Reinforce or praise?	Correct or prompt?	Seat or group?	Behavior plan?

Quick Plan (continued)

Wednesday

Routines *(Check the routines planned for today's class)*	Lesson Details/ Class Expectations *(List the specific activities and content covered in each routine)*	Adaptations/ Student Expectations *(List how the* Lesson Details *differ for the student, if at all)*	Materials for Student ▪ Text/Books? ▪ Worksheets? ▪ Equipment/Tech? ▪ Graphic Organizers?	Supports for Student ▪ Communication? ▪ Assistive Tech? ▪ Physical? ▪ Peers/Paras?
○ Whole Class Instruction ○ Whole Class Discussion ○ Small Group Work ○ Independent Work ○ Presentations ○ Lab Activities ○ Testing/Quiz				
Presenting the goal?	Reinforce or praise?	Correct or prompt?	Seat or group?	Behavior plan?

Thursday

Routines *(Check the routines planned for today's class)*	Lesson Details/ Class Expectations *(List the specific activities and content covered in each routine)*	Adaptations/ Student Expectations *(List how the* Lesson Details *differ for the student, if at all)*	Materials for Student ▪ Text/Books? ▪ Worksheets? ▪ Equipment/Tech? ▪ Graphic Organizers?	Supports for Student ▪ Communication? ▪ Assistive Tech? ▪ Physical? ▪ Peers/Paras?
○ Whole Class Instruction ○ Whole Class Discussion ○ Small Group Work ○ Independent Work ○ Presentations ○ Lab Activities ○ Testing/Quiz				
Presenting the goal?	Reinforce or praise?	Correct or prompt?	Seat or group?	Behavior plan?

Friday

Routines *(Check the routines planned for today's class)*	Lesson Details/ Class Expectations *(List the specific activities and content covered in each routine)*	Adaptations/ Student Expectations *(List how the* Lesson Details *differ for the student, if at all)*	Materials for Student ▪ Text/Books? ▪ Worksheets? ▪ Equipment/Tech? ▪ Graphic Organizers?	Supports for Student ▪ Communication? ▪ Assistive Tech? ▪ Physical? ▪ Peers/Paras?
○ Whole Class Instruction ○ Whole Class Discussion ○ Small Group Work ○ Independent Work ○ Presentations ○ Lab Activities ○ Testing/Quiz				
Presenting the goal?	Reinforce or praise?	Correct or prompt?	Seat or group?	Behavior plan?

Appendix E. *Data collection sheet*

Teacher ID: _____ Date: _____ Observer: _____ Condition: _____

Student ID: _____ Time: _____ Class: _____ Phase: _____

General Educator Involvement Study

	Teacher Interaction	Teacher Behaviors											Student Interaction	Teacher Behavior Notes	Academic Engagement	Instructional Format
		WT			RP		EC		S	P	B	O				
		S	AD	AL	A	S	A	S								
1	P A								S	P	B	O	GE EA P O X		C I N	W S I X
2	P A								S	P	B	O	GE EA P O X		C I N	W S I X
3	P A								S	P	B	O	GE EA P O X		C I N	W S I X
4	P A								S	P	B	O	GE EA P O X		C I N	W S I X
5	P A								S	P	B	O	GE EA P O X		C I N	W S I X
6	P A								S	P	B	O	GE EA P O X		C I N	W S I X
7	P A								S	P	B	O	GE EA P O X		C I N	W S I X
8	P A								S	P	B	O	GE EA P O X		C I N	W S I X
9	P A								S	P	B	O	GE EA P O X		C I N	W S I X
10	P A								S	P	B	O	GE EA P O X		C I N	W S I X
11	P A								S	P	B	O	GE EA P O X		C I N	W S I X
12	P A								S	P	B	O	GE EA P O X		C I N	W S I X
13	P A								S	P	B	O	GE EA P O X		C I N	W S I X
14	P A								S	P	B	O	GE EA P O X		C I N	W S I X
15	P A								S	P	B	O	GE EA P O X		C I N	W S I X
16	P A								S	P	B	O	GE EA P O X		C I N	W S I X
17	P A								S	P	B	O	GE EA P O X		C I N	W S I X
18	P A								S	P	B	O	GE EA P O X		C I N	W S I X
19	P A								S	P	B	O	GE EA P O X		C I N	W S I X
20	P A								S	P	B	O	GE EA P O X		C I N	W S I X
21	P A								S	P	B	O	GE EA P O X		C I N	W S I X
22	P A								S	P	B	O	GE EA P O X		C I N	W S I X
23	P A								S	P	B	O	GE EA P O X		C I N	W S I X
24	P A								S	P	B	O	GE EA P O X		C I N	W S I X
25	P A								S	P	B	O	GE EA P O X		C I N	W S I X

Additional Notes:

Appendix F. *Coding manual*

General Educator Involvement Study

Coding Manual

Observations will occur and data will be utilized when the student is present in the general education class for a minimum of 15 min. Observations will **NOT** occur during class periods in which prolonged activities inhibit the nature of the measured variables (e.g., testing, watching a movie, substitute with no planned instruction).

START rule: Start an observation at a pre-determined time on a clock (e.g., scheduled class start time, one minute after focus student enters the classroom) by starting the interval timers of each observe at that time.

STOP rule: Stop an observation at a pre-determined time on the same clock used to start the observation (e.g., schedule class end time) or when the student leaves the class for the day. This does NOT include brief moments of time that the student temporarily leaves class (e.g., to go to the bathroom, to get a drink of water). Such instances should be coded using the definitions below (i.e., drawing a line through the interval in which the student is temporarily not present in the classroom.

Teacher Interaction

Teacher interaction will be coded using 1-min *partial interval recording* and *mutually exclusive,* in that only one of the options can be recorded for each interval.

	Code	*Definition*
Present	P	Interactions are any verbal (i.e., speech, vocalization) and/or nonverbal (e.g. facial expressions, gestures, pictures, sign, devices) behaviors produced by the general educator that are directed toward the focus student (Paraprofessional Observational Codes, 2008). An interaction episode may include a single initiation or a series of initiations and responses with pauses of no longer than 10 seconds between an initiation and a response or two initiations (Davis et al., 1998). Multiple interaction episodes may occur within one interval and one interaction episode may expand over multiple intervals. This can include giving a task direction, addressing student behavior (e.g., telling the student to take out a pencil, indicating the need to be quiet by putting index finger to lips, pointing to a picture of "line up" in front of the student), asking a question, praising/providing reinforcement, prompting, or talking socially (e.g., greeting the student, commenting on the student's outfit). Interactions directed toward all members of a small group of four or fewer students including the focus student will be recorded as an occurrence of a general educator interaction. This does not include general directions, questions, or comments directed to the class at-large.

Absent	A	The absence of an interaction directed toward the focus student by the general educator.

Teacher Behaviors

Teacher behaviors will be coded using 1-min *partial interval recording.* Multiple options can be recorded for each interval as multiple behaviors occur. For each teacher behavior observed, record a note to provide information about the behavior (e.g., how the work task was adapted, what student behaviors were praised, how peers were arranged to support the student).

Work Task (WT)

The general educator presents or comments on a work task or task direction directly to the focus student.

	Code	*Definition*
Same	S	The general educator presents task, direction, or comment that is the same as the instruction of the entire class in content, materials, product, and other attributes. For example: During *lecture/note-taking*, the focus student is taking the same notes from the same lecture in the same manner (e.g., hand-writing, typing). During *class discussions*, the focus student has the same expectations to attend to the discussion and participate in the discussion when called upon. During *group work*, the focus student is an equal member of the group with the same expectations, receives the same instructions and materials, and completes the same assignments to the same standard in the same manner as all other group members. Nonexamples: See Adapted and Alternate
Adapted	AD	The general educator presents a task, direction, or comment that is adapted from the instruction of the entire class in either content, materials, product, or another attribute. The adapted task could supplement or simplify the task of the general class. For example: During *lecture/note-taking*, the focus student is taking similar notes from the same lecture (e.g., a sub-set of material or only key words/drawings instead of definitions) or in a different manner (e.g., typing versus writing). During *class discussions*, the focus student participates on the topic of the discussion using a pre-scripted question/response such as an AAC switch or sentence strip. During *group work*, the focus student has a specified role in the group outside of the typical roles, receives one or two explicit instructions rather than the full instructions, or completes a different assignment on the same topic as the rest of the other group members. During *independent work*, the focus student completes a different assignment on a sub-set of the content in the same or different manner (e.g., flash cards of terms versus written answers to comprehension questions) as the other students. During *quizzes/tests*, the focus student receives an assessment on a sub-set of the material using the same or different materials (e.g., circling correct response pictures versus filling in the blank) as all other students in the class. Nonexamples: See Same and Alternate
Alternate	AL	The general educator presents a task, direction, or comment that is different from the instruction of the entire class in content, materials, product, or another attribute. The alternate task changes the content of

		the general class and/or focuses on a different type of skill completely (e.g., daily living, communication, motor skills versus academic skill). For example: During *lecture/note-taking*, the focus student is completing a different task (e.g., reading a book) or working on different material (e.g., copying words about volcanos when the class is taking notes on the laws of motion). During *class discussions*, the focus student is given a different task such as handwriting or cutting/pasting unrelated to the class discussion. During *group work*, the focus student is assigned as an observer of the group or works individually with support personnel on a different task (e.g., reading a book versus modeling moon phases). During *independent work*, the focus student completes a different assignment or content as the other students such as a file folder activity on counting compared to diagramming molecule compounds. During *quizzes/tests*, the focus student completes an assignment rather than a test or receives a test on different content or using different materials compared to the other students in the class. Nonexamples: See Same and Adapted

Reinforce/Praise (RP)

The general educator provides comments or exclamations of approval directed toward the focus student. The comments or exclamations can be verbal or non-verbal and can include gestures (e.g., thumbs up) or vocalizations (e.g., "woo hoo").

	Code	*Definition*
Academic	A	The general educator provides a comment or exclamation pertaining to the academic work task or content in which the focus student is engaged. This can include "you're right," "way to go," "you are on the right track," "I like the way you are working so hard," or high-fives and pats on the back. This does not include social comments.
Social	S	The general educator provides a comment or exclamation pertaining to the non-academic behaviors or social interactions in which the focus student is engaged. This can include "thank you for pushing in your chair," "nice cooperation," or "you are a great helper". This does not include comments on academic tasks.

Error Correction (EC)

The general educator provides comments or signals with the intent to change the focus student's work or behavior. The comments or signals can be verbal or non-verbal and can include gestures (e.g., finger over lips to indicate quiet).

	Code	*Definition*
Academic	A	The provided comment or signal pertains to correcting the academic work task or product in which the focus student is or has engaged. This can include prompting (e.g., verbal prompt, modeling, physical prompt), saying "that's not quite right" or "try again," or repeating the direction/question while pointing to the correct response.

		This does not include prompts for social behaviors.
Social	S	The provided comment or signal pertains to correcting the non-academic behaviors or social interactions in which the focus student is or has engaged. This can include verbal reminders of the rules or expectations or gestural references to a visual support. This does not include prompts for academic behaviors.

Seating/Grouping (S)

	Code	*Definition*
Seating/ Grouping	S	The general educator explicitly assigns the focus student to a desk/table in the classroom or a group of students related to an assignment or activity. This only includes the point in time in which the seating/grouping arrangement is made by the general educator and not the sustained presence of the student in that arrangement. This does not include students sitting in a previously assigned seat or picking a seat at random without temporally-proximal, explicit direction from the general educator.

Peer Arrangement (P)

	Code	*Definition*
Peer Arrangement	P	The general educator assigns a peer to support the student either academically or socially in the context of a work task or transition outside of class-wide group work. This can include asking a peer to transcribe the focus student's responses, help/encourage the focus student to complete the task, or read the materials to the student. This only includes the point in time in which the arrangement is made by the general educator and not sustained peer interactions with the focus student resulting from the arrangement. This does not include typical partner or small group work with peers where each member of the group share similar or related responsibilities.

Behavior Support (B)

	Code	*Definition*
Behavior Support	B	The general educator utilizes a behavior support strategy with the focus student as outlined in the student's individualized behavior plan or the teacher's classwide management plan. This can include delivering a ticket/token for desired behavior, providing the student with a preferred activity or item not related to the class instruction for desired behavior, referencing a visual schedule or First-Then board, or time out from reinforcement as consisted with a classwide plan.

		This does not include praise though praise may co-occur with the use of behavior supports.

Other (O)

	Code	*Definition*
Other	O	The general educator provides an interaction, support, arrangement, or instruction not otherwise specified in the previous categories. Each time "other" is coded, a written description of the event must be provided on the data sheet.

<u>Student Interactions</u>

Student interactions will be coded using 1-min *<u>partial interval recording</u>.* Multiple options can be recorded for each interval as interactions with multiple communication partners occur.

Student interaction is verbal or nonverbal communication occurring between the focus student and another individual. This involves general educators, paraprofessionals, peers, or others directing verbal or nonverbal (e.g., gestures, signs, communication device use) communicative behavior toward the focus student and the focus student directing communication to others. If the other individual initiates toward a group of students including the focus student, code as an interaction if the peer's interactive behaviors are clearly directed toward or include the focus student. If the other individual provides prompting or reinforcement, this should also be coded as an interaction.

Examples:

- An individual says to the focus student, "Hey, let's go!"
- An individual asks a group of students, including the focus student, "Are any of you coming to the dance tonight?"
- An individual passes a worksheet to the focus student and also says "Here you go."
- An individual waves to the focus student to say hello when they enter the classroom.
- An individual offers to help the focus student with an assignment and says, "Would you like me to show you how to do that?"
- An individual says "great job!" to the focus student after the focus student completes a step of an assignment.
- An individual prompts the focus student to communicate by pointing to the AAC device.

Non-examples:

- An individual is talking to the teacher and the focus student is looking at the individual.
- An individual walks by the focus student and leaves a worksheet in front of them.
- An individual sitting next to the focus student comments to herself, "I wish I had remembered to bring the permission slip back today."
- An individual sees that the focus student's device is across the room, gets it, and hands it to the focus student.

	Code	*Definition*

General Educator	GE	When the communication partner is the general educator, code "GE." Communicative interactions between the focus student and the general educator will also be coded in **Teacher Interaction**.
Paraprofessional	EA	When the communication partner is a paraprofessional, code "EA." This can include an individually-assigned paraprofessional or class-wide paraprofessional.
Peer	P	When the communication partner is a peer, code "P."
Other	O	When the communication partner is another person, code "O." This can include an administrator, speech language pathologist, parent volunteer, or guest speaker.
No Interaction	X	When no interaction is present during an interval, code "X."

Academic Engagement

Academic engagement will be coded using 1-min *momentary time sampling* at the end of each observation interval. Academic engagement will be coded when the focal student is engaged or attending to instructional activities and/or tasks as assigned by the teacher of paraprofessional. Options for academic engagement are *mutually exclusive* and *exhaustive* (i.e., only one option is recorded for each and every interval).

Academic engagement includes looking at materials (e.g., textbook, worksheet, overheads) related to instructional activities, looking at the teacher, writing related to the assigned activity, following teacher instructions/directions, raising hand, or asking questions of the teacher about instructional activities. The student must be engaged in materials or activities related to the class content. Explicit teacher instructions (i.e., is the student doing what the teacher asked her or the class in general to do?) or observations of other classmates (i.e., is the student engaged in the same general appropriate behaviors as his/her classmates?) may be helpful guides to determine what behaviors are expected at a given time.

Examples:

- SWD is working with a peer or paraprofessional on an assignment using adapted materials.
- SWD is following large-group instructions in a slower pace.
- SWD is listening to a lecture like the rest of the class, as indicated by body/ head oriented toward teacher in accordance with ability.
- SWD is communicating about a task or activity.

Non-examples:

- There is no instruction occurring (e.g., teacher has not come to class, SWD has completed assignment and has not received further instruction).
- SWD is looking around the room or staring "off into space."
- SWD is not paying attention to a teacher lecture (e.g., not looking at teacher, playing with other materials).
- SWD is talking with peers when he/she should be completing a task or listening to the teacher.
- SWD is sleeping.
- SWD is waiting for an assignment/ activity to begin, including waiting for appropriate instructional materials.

- SWD is working with the paraprofessional on an assignment for another class.

	Code	*Definition*
Engaged - consistent	C	The focus student is actively engaged in (i.e., attending to) instructional activities *and/or* tasks assigned by the teacher or the paraprofessional that are consistent or aligned with the ***content*** provided to the remainder/majority of the class (i.e., identical or appropriately modified from the class curriculum with respect to difficulty, modality, response format, length, and/or materials). Examples: The focus student is working with a peer or paraprofessional on an assignment using adapted materials, adapted worksheets that are similar to class content, or books on a lower reading level related to course content, following large-group instructions in a slower pace, or listening to the same lecture as the rest of the class. Nonexamples: See Engaged with Inconsistent, Unengaged.
Engaged - Inconsistent	I	The focus student is actively engaged in (i.e., attending to) instructional activities *and/or* materials assigned by the teacher/paraprofessional that are **not** consistent or aligned with the ***content*** provided to the remainder/majority of the class (i.e., not identical or appropriately modified from the class curriculum with respect to difficulty, modality, response format, length, and/or materials). Examples: Students coloring, completing other activities unrelated to the class theme/unit for the day, working on assignments from other classes—*all if assigned by a teacher*. Nonexamples: See Engaged with Consistent, Unengaged.
Not Engaged	N	The focus student is overly ***not actively engaged*** (i.e., attending to) in any instructional activities and/or tasks **or** if the focus student is actively engaged in activities and/or materials that are ***not assigned by a teacher or paraprofessional.*** That is, the student does not actually appear to be 'learning' anything. Examples: Moving around the classroom during instructional activities, looking around the room or staring "off into space", not paying attention to a teacher lecture (i.e., not looking at the teacher, writing, or writing), disrupting others, talking to peers when he/she is not supposed to, working on assignments for other classes (if not assigned by teacher), listening to class announcements and sleeping. Also includes the student not being provided any instructional materials or waiting for an assignment/activity to begin. Nonexamples: See above engaged examples.

		If no instruction is occurring, it should be coded that the student is not engaged.

Instructional Format

Instructional format will be coded using 1-min *momentary time sampling* at the end of each observation interval. Instructional format is *mutually exclusive*, in that only one of the options can be recorded for each interval. Instructional format is a contextual variable designed to capture the instruction that the SWD is receiving. If the SWD is doing something different than the rest of the class, code the instructional format relevant to the SWD. Instructional format is *exhaustive* in that one option must be selected for each observation interval, unless the SWD is gone from the class for the entire interval. If the SWD is gone from the class for the entire interval, the observer will draw a horizontal line through the code boxes for that interval.

	Code	*Definition*
Whole Group	W	The focus student is receiving instruction with the majority of students in the class (i.e., 8 or more) primarily from a single teacher or paraprofessional (or a co-teaching arrangement). This can include: SWD listening to the general educator lecture about the environment, SWD watching a movie about government, or SWD leading a class discussion in which all or most students are expected to participate or attend; SWD is asked to get out materials/supplies related to ongoing large group instruction (if instruction does not resume 5 seconds after SWD has his/her materials out, switch code to no instruction). This does not include other instructional grouping categories.
Small Group	S	The focus student is receiving instruction by working cooperatively with one to seven other peers (i.e., between two and eight total students in the small group). This small group may be directly taught or facilitated by a teacher, paraprofessional, or peer. Peer tutoring or peer support arrangements should be coded as small group. This can include: SWD working in a small group to complete a report on the continents, act out a short drama, conduct an Internet search, or research a period in history; SWD is paired with a peer to tutor each other on an assignment; SWD works on his/her lab project with partner. This does not include other instructional grouping categories.
Independent Work	I	The focus student is primarily working independently on their own, with or without the ongoing assistance from teachers or paraprofessionals. When the focus student is working on their own on some specific tasks that may or may not be related to the class activities, code as Independent Work. This can include: SWD is working on a worksheet with support from special education teacher; SWD is working on a matching game with a

		paraprofessional in an art class; SWD is reading/writing on his/her own. This does not include other instructional grouping categories.
No Instruction	X	The focus student has not been assigned any tasks or assignments to complete, has completed assigned activities and is given "free time," or is transitioning from one context/activity to another context (e.g., from small group to whole group, from independent activity to whole group, leaving the classroom, etc.). In essence, the student is not expected to be doing any specific work during this time. If a focus student is not in the presence of any expected tasks (e.g., taking a break to walk around the classroom), code as No Instruction. This can include: SWD sitting at desk at the beginning of class, waiting for the teacher to arrive in the room or to begin class, or listening to general class announcements. SWD has finished work and does not have another assignment to move on to. The teacher is taking attendance. This does not include other instructional grouping categories.

Appendix G. *Student support plan meeting fidelity checklist*

Student Support Plan Fidelity Checklist

General Educator Involvement Study

Teacher ID: _____ Student ID: _____ Observer: _____ Date: _____

Fidelity Checklist for the Development of the Student Support Plan

(Check the boxes of each component present during the Student Support Plan meeting)

- ☐ Researcher reviews the goals and roles of the collaborative planning process.

Team identifies:

- ☐ Student strengths and interests
- ☐ Student present levels of performance on academic skills
- ☐ Helpful strategies
- ☐ Academic goals on the student's Individualized Education Plan (IEP)
- ☐ Academic goal appropriate to target in the general education class
- ☐ Routines and supports for "beginning/end of class"
- ☐ Routines and supports for "whole class instruction"
- ☐ Routines and supports for "whole class discussion"
- ☐ Routines and supports for "small group work"
- ☐ Routines and supports for "independent work"
- ☐ Routines and supports for "class presentations"
- ☐ Routines and supports for "lab activities"
- ☐ Routines and supports for "tests/quizzes"

- ☐ General educator records information on the Student Support Plan document.
- ☐ Researcher asks questions from the Planning Framework document to guide the team.
- ☐ Researcher and General Educator schedule a time for Quick Plan meetings.

Comments: _____

_____

Components present: _____

Components planned: 17

X100 = _____ %

Percent of components completed

Appendix H. *Quick plan fidelity checklist*

Quick Plan Fidelity Checklist

General Educator Involvement Study

Teacher ID: _____ Student ID: _____ Observer: _____ Date: _____

Fidelity Checklist for the Development of the Quick Plan

(Check the boxes of each component present during the Quick Plan meeting)

- ☐ Student Support Plan is present.
- ☐ General Educator and Researcher refer to the Student Support Plan.

  General Educator identifies:

  - ☐ Routines/Expectations for Monday
  - ☐ Routines/Expectations for Tuesday
  - ☐ Routines/Expectations for Wednesday
  - ☐ Routines/Expectations for Thursday
  - ☐ Routines/Expectations for Friday

  General Educator and Researcher identify:

  - ☐ Materials and supports for Monday
  - ☐ Teacher behaviors for Monday
  - ☐ Materials and supports for Tuesday
  - ☐ Teacher behaviors for Tuesday
  - ☐ Materials and supports for Wednesday
  - ☐ Teacher behaviors for Wednesday
  - ☐ Materials and supports for Thursday
  - ☐ Teacher behaviors for Thursday
  - ☐ Materials and supports for Friday
  - ☐ Teacher behaviors for Friday
- ☐ General educator records information on the Quick Plan document.
- ☐ Researcher allows for answering questions and providing possible examples.
- ☐ Researcher and General Educator confirm a time for the next Quick Plan meeting.

Comments: _____

_____

Components present: _____

Components planned: 20

X100 = _____ % Percent of components completed

REFERENCES

Biggs, E. E., Carter, E. W., & Gustafson, J. (2017). Efficacy of peer support arrangements to increase peer interaction and AAC use. *American Journal on Intellectual and Developmental Disabilities*, *122*, 25-48. doi: 10.1352/1944-7558-122.1.25

Biggs, E. E., Gilson, C. B., & Carter, E. W. (2016). Accomplishing more together: Influences to the quality of professional relationships between special educators and paraprofessionals. *Research and Practice for Persons with Severe Disabilities*, *41*, 256-272. doi: 10.1177/1540796916665604

Brock, M. E. (2018). Trends in educational placement of students with intellectual disability in the United States over the past 40 years. *American Journal on Intellectual and Developmental Disabilities, 123,* 305-314. doi: 10.1352/1944-7558-123.4.305

Brock, M. E., & Carter, E. W. (2016). Efficacy of teachers training paraprofessionals to implement peer support arrangements. *Exceptional Children*, *82*, 354-371. doi: 10.1177/0014402915585564

Brock, M. E., Biggs, E. E., Carter, E. W., Cattey, G. N., & Raley, K. S. (2016). Implementation and generalization of peer support arrangements for students with severe disabilities in inclusive classrooms. *The Journal of Special Education*, *49*, 221-232. doi: 10.1177/0022466915594368

Bukach, C. M., Phillips, W. S., & Gauthier, I. (2010). Limits of generalization between categories and implications for theories of category specificity. *Attention, Perception, & Psychophysics*, *72*, 1865-1874. doi: 10.3758/app.72.7.1865

Carter, E. W. (2018). Supporting the social lives of secondary students with severe disabilities: Critical elements for effective intervention. *Journal of Emotional and Behavioral Disorders, 26,* 52-61. doi: 10.1177/1063426617739253

Carter, E. W., Asmus, J., Moss, C. K., Biggs, E. E., Bolt, D. M., Born, T. L., … Weir, K. (2016). Randomized evaluation of peer support arrangements to support the inclusion of high school students with severe disabilities. *Exceptional Children*, *82*, 209-233. doi: 10.1177/0014402915598780

Carter, E. W., Cushing, L. S., Clark, N. M., & Kennedy, C. H. (2005). Effects of peer support interventions on students' access to the general curriculum and social interactions. *Research and Practice for Persons with Severe Disabilities, 30*, 15-25. doi: 10.2511/rpsd.30.1.15

Carter, E. W., Sisco, L. G., Brown, L., Brickham, D., & Al-Khabbaz, Z. A. (2008). Peer interactions and academic engagement of youth with developmental disabilities in inclusive middle and high school classrooms. *American Journal on Mental Retardation*, *113*, 479-494. doi: 10.1352/2008.113:479-494

Chung, Y. C., & Carter, E. W. (2013). Promoting peer interactions in inclusive classrooms for students who use speech-generating devices. *Research and Practice for Persons with Severe Disabilities*, *38*, 94-109. doi: 10.2511/027494813807714492

Chung, Y., Carter, E. W., & Sisco, L. G. (2012). Social interactions of students with disabilities who use augmentative and alternative communication in inclusive classrooms. *American Journal on Intellectual and Developmental Disabilities, 117*, 349-367. doi: 10.1352/1944-7558-117.5.349

Copeland, S. R., & Cosbey, J. (2008). Making progress in the general curriculum: Rethinking effective instructional practices. *Research and Practice for Persons with Severe Disabilities*, *34*, 214-227. doi: 10.2511/rpsd.33.4.214

Corso, M. J., Bundick, M. J., Quaglia, R. J., & Haywood, D. E. (2013). Where student, teacher, and content meet: Student engagement in the secondary school classroom. *American Secondary Education*, *41*(3), 50-61.

Fisher, M., & Pleasants, S. L. (2012). Roles, responsibilities, and concerns of paraeducators: Findings from a statewide survey. *Remedial and Special Education*, *33*, 287-297. doi: 10.1177/0741932510397762

Gast, D. L., & Ledford, J. R. (Eds.). (2014). *Single case research methodology: Applications in special education and behavioral sciences*. New York, NY: Routledge.

Giangreco, M. F., Edelman, S. W., Broer, S. M., & Doyle, M. B. (2001). Paraprofessional support of students with disabilities: Literature from the past decade. *Exceptional Children*, *68*, 45-63. doi: 10.1177/001440290106800103

Goldhaber, D. (2016). In schools, teacher quality matters most. *Education Next, 16*(2), 56-62.

Hammill, D. D., Pearson, N. A., & Wiederholt, J. L. (2009). *Comprehensive Test of Nonverbal Intelligence* (2nd ed.). Austin, TX: Pro-Ed.

Heinrich, S., Collins, B. C., Knight, V., & Spriggs, A. D. (2016). Embedded simultaneous prompting procedure to teach stem content to high school students with moderate disabilities in an inclusive setting. *Education and Training in Autism and Developmental Disabilities*, *51*, 41-54.

Huber, H. B., Carter, E. W., Lopano, S. E., & Stankiewicz, K. C. (2018). Using structural analysis to inform peer support arrangements for high school students with severe

disabilities. *American Journal on Intellectual and Developmental Disabilities*, *123*(2), 119-139. doi: 10.1352/1944-7558-123.2.119

Hunt, P., Soto, G., Maier, J., & Doering, K. (2003). Collaborative teaming to support students at risk and students with severe disabilities in general education classrooms. *Exceptional Children*, *69*, 315-332. doi: 10.1177/001440290306900304

Individuals with Disabilities Education Act, 20 U.S.C. § 1400 (2004)

Jameson, J. M., Walker, R., Utley, K., & Maughan, R. (2012). A comparison of embedded total task instruction in teaching behavioral chains to massed one-on-one instruction for students with intellectual disabilities: Accessing general education settings and core academic content. *Behavior Modification*, *36*, 320-340. doi: 10.1177/0145445512440574

Janney, R. E., & Snell, M. E. (2006). Modifying schoolwork in inclusive classrooms. *Theory Into Practice*, *45*, 215-223. doi: 10.1207/s15430421tip4503_3

Jorgensen, C. M., McSheehan, M., & Sonnenmeier, R. M. (2010). *The beyond access model: Promoting membership, participation, and learning for students with disabilities in the general education classroom*. Baltimore, MD: Brookes.

Kennedy, C. H., Cushing, L. S., & Itkonen, T. (1997). General education participation improves the social contacts and friendship networks of students with severe disabilities. *Journal of Behavioral Education*, *7*, 167-189. doi: 10.1023/A:1022888924438

Kuntz, E. M. & Carter, E. W. (in preparation). *General educators in inclusive interventions for students with intellectual and developmental disabilities*.

Kurth, J. A., & Gross, M. (2015). *The inclusion toolbox: Strategies and techniques for all teachers.* Thousand Oaks, CA: Corwin.

Kurth, J., & Mastergeorge, A. M. (2010). Individual education plan goals and services for adolescents with autism: Impact of age and educational setting. *The Journal of Special Education*, *44*, 146-160. doi: 10.1177/0022466908329825

McDonnell, J., Johnson, J. W., Polychronis, S., Riesen, T., Jameson, M., & Kercher, K. (2006). Comparison of one-to-one embedded instruction in general education classes with small group instruction in special education classes. *Education and Training in Developmental Disabilities*, *41*, 125-138.

McDonnell, J., Mathot-Buckner, C., Thorson, N., & Fister, S. (2001). Supporting the inclusion of students with moderate and severe disabilities in junior high school general education classes: the effects of classwide peer tutoring, multi-element curriculum, and accommodations. *Education and Treatment of Children*, *24*, 141-160.

Roid, G. H. (2003). *Stanford-Binet intelligence scales* (5th ed.). Itasca, IL: Riverside Publishing.

Ryndak, D. L., Taub, D., Jorgensen, C. M., Gonsier-Gerdin, J., Arndt, K., Sauer, J., ... & Allcock, H. (2014). Policy and the impact on placement, involvement, and progress in general education: Critical issues that require rectification. *Research and Practice for Persons with Severe Disabilities*, *39*, 65-74. doi: 10.1177/1540796914533942

Ryndak, D., Jackson, L. B., & White, J. M. (2013). Involvement and progress in the general curriculum for students with extensive support needs: K–12 inclusive-education research and implications for the future. *Inclusion*, *1*(1), 28-49. doi: 10.1352/2326-6988-1.1.028

Shukla, S., Kennedy, C. H., & Cushing, L. S. (1999). Intermediate school students with severe disabilities: Supporting their social participation in general education classrooms. *Journal of Positive Behavior Interventions*, *1*, 130-140. doi: 10.1177/109830079900100301

U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office

of Special Education Programs. (2017). *39th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2017*, Washington, D.C.

Wechsler, D. (2003). *Wechsler intelligence scale for children* (4th ed.). San Antonio, TX: The Psychological Corporation.