

Education Innovation and Research – Early-Phase Grant (84.411C)

Seminole County Public Schools

Exceptional Student Support (ESE) Curriculum Project

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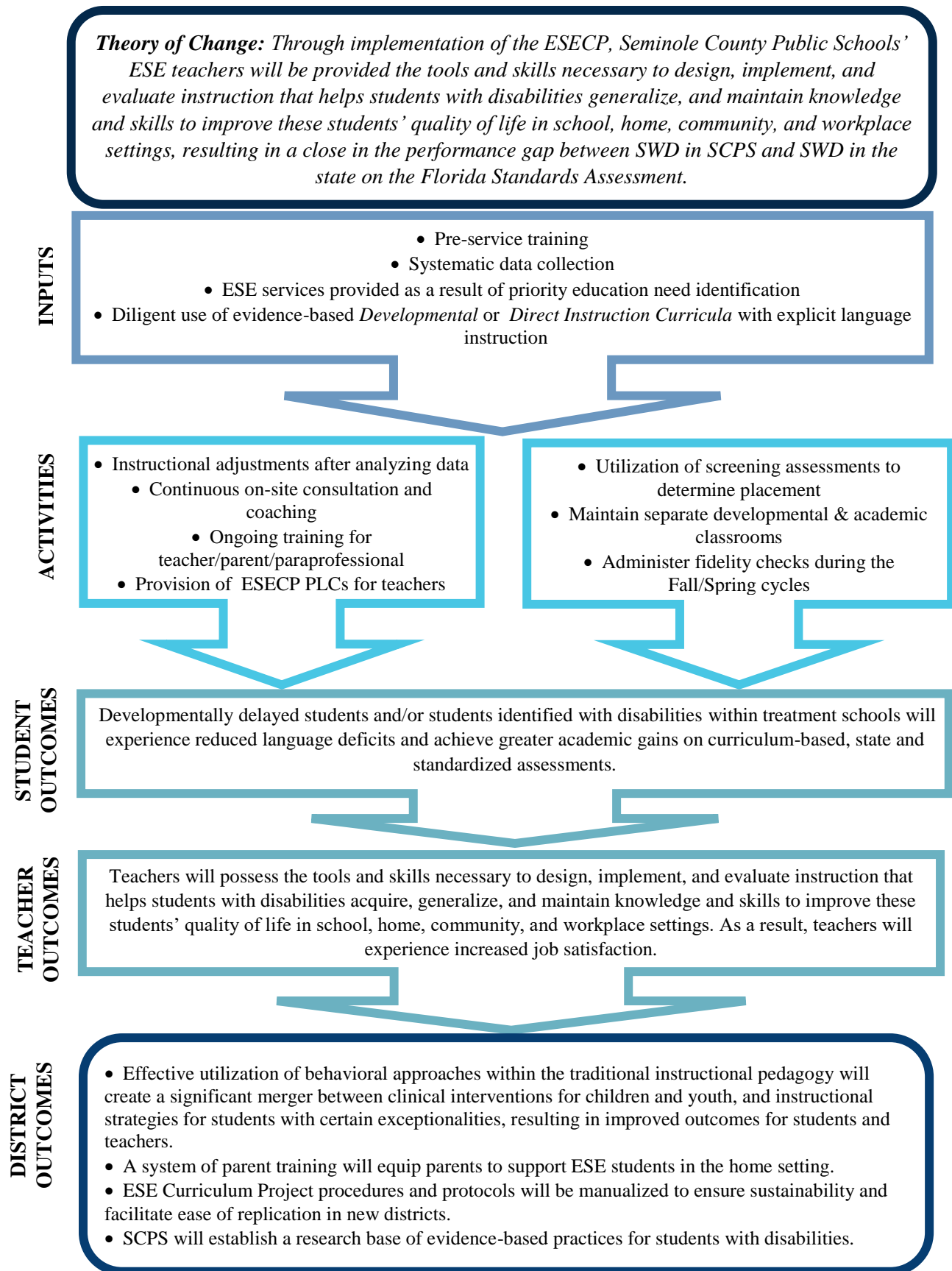
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Figure 1. *ESECP Logic Model*



(B.2) *Conceptual Framework* - The ESECP proposes the following conceptual framework utilizing an exceptional approach to: grouping students for instruction, assessment, instruction, data collection, and data analysis.

Figure 2. *ESECP Curriculum Domains*



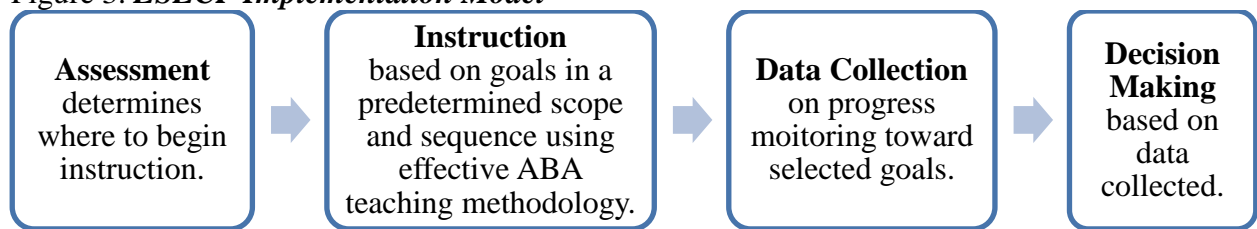
An exceptional approach to grouping: Prior to implementation of the ESECP, SCPS placed students into classrooms based on their identified primary exceptionality without regard to level of academic functioning. This led to classes where students had a very wide range of needs. The ESECP proposes assigning

students by priority educational need, with consideration to the Least Restrictive Environment, (LRE) to classrooms in one of the following domains: Medical, Developmental, Academic or Behavioral. **Developmental Domain – Curriculum-Based Assessment:** The VB-MAPP The VB-MAPP is a criterion-referenced assessment tool, curriculum guide, and skill tracking system that is designed for children with autism, and other individuals who demonstrate language delays and have an instructional level in the 0-48 month range (Sundberg, M. L.,2008).The VB-MAPP breaks language and related skills down into 16 different skill areas (or domains). *Instruction:* Students will be taught targeted skills based off of the VB-MAPP assessment using the following behavioral teaching methods. Intensive Trial Training (ITT): The ITT format is comprised of

multiple ‘trials’ where the child is exposed to learning stimuli. All new skills are introduced errorlessly (with prompting) and the prompts are immediately faded to an independent response. After mastering skills through ITT, these skills are transferred to other environments using Natural Environment Training (NET) teaching procedures. In their study *Early Intervention for Children with Pervasive Developmental Disorder* Smith, T., Groen, A. D., & Wynn, J. W. utilized similar teaching procedures. This study met WWC standards with reservations and showed substantively important positive effects on cognition. Mand Training: Many students entering the developmental classrooms lack the ability to communicate their basic wants and needs. A portion of each school day is spent teaching students to independently ask for preferred items. Students may communicate vocally, using sign language, or with picture exchange. *Data Collection*: Teachers will collect daily probe data on target skills to assess student progress. Students will master goals after they can demonstrate skills on the first try each day for at least three consecutive days. Cumulative data on the type and number of skills mastered will be collected and graphed daily for each student. Students in the medical circle will participate in these instructional methods for the time they are available for instruction. **Academic Domain.** *Curriculum-Based Assessment*: Students who are 2 or more years behind grade level but demonstrate an instructional level in the k-5 range will be given curriculum-based placement tests in deficit areas. Placement tests will determine their current instructional level and give teachers an entry point on a specified curriculum scope and sequence. *Instruction*: Students will receive up to three Direct Instruction groups per day. Reading Mastery, Reading Mastery Language, Corrective Reading Decoding, Corrective Reading Comprehension, and Connecting Math Concepts will be utilized as prescribed by the placement test results. Direct Instruction (DI) is explicit, systematic instruction based on scripted lesson plans that contain the following

features: students are ability grouped and re-grouped based on their rate of progress through the program; emphasis is placed on the pace and efficiency of instruction; DI programs are meant to accelerate student progress; therefore, lessons are designed to bring students to mastery as quickly as possible. A meta-analysis, *The effectiveness of direct instruction curricula: A meta-analysis of a half century of research* examined the literature published from 1961-2016 on DI examined 318 studies with almost 4,000 effects. "All of the estimated effects were positive and all were statistically significant except results from meta regressions involving affective outcomes" (Stockard, J, Wood, T.W., Coughlin, C., & Khoury, C. R., 2018). Effects showed little decline during maintenance, and effects for academic subjects were greater when students had more exposure to the programs. *Data Collection:* Student data will be collected using a Lesson Progress Chart. Each day teachers will indicate which lessons the student worked on and note if content was mastered or review needed. Teachers will track number of lessons mastered and graph the weekly total to examine the rate of progress. Data on program mastery tests/checkouts will be collected. Students in the Behavioral Circle will participate in the DI groups when determined to be appropriate on an individual student basis by that student's Individual Education Plan (IEP) team. The following ESECP Implementation Model (Figure 3) represents an exceptional approach to implementation of effective pedagogy for SWD.

Figure 3. *ESECP Implementation Model*



(B.3) *Performance Feedback and Continuous Improvement* -The district uses a rigorous continuous improvement model to provide timely and regular feedback on progress toward

district and project goals. This model offers opportunities for ongoing review, modification, and improvement of specific initiatives throughout implementation. The Project Manager will possess primary responsibility for ongoing progress monitoring in close collaboration with leadership. The ESECP team will consult with project partners monthly (NIFDI, PaTTAN, and UCF-CARD) through on-site visits, conference calls, and virtual visits to problem solve, review student data, and course correct. The project team will meet at least quarterly with the evaluation team (RMC) as described in the evaluation section. While analysis of data will be continuous, midyear and annual reports will be shared with district/school leadership, as well as stakeholders.

C. Adequacy of the Resources and Quality of the Management Plan

(C.1) *Management Plan* - The school district has a proven track record for capacity to successfully implement innovative projects within its schools, with responsibility for multiple millions of dollars in grant funding provided by local, state, federal and private sources. To ensure funds are expended within the guidelines outlined by each funder and a return on investment is generated through funded programs, the district maintains a solid organizational capacity within financial and data management. The district's departments of Federal Projects & Resource Development, Finance, Purchasing, Information Services, and Assessment & Accountability have qualified personnel and data systems to ensure records can be maintained. Each department has successfully managed special projects and has consistently utilized sound fiscal management procedures in federally funded opportunities. The ESECP budget narrative includes items needed to fulfill the project implementation and evaluation and correlates with the ESECP timeline and milestones, thus ensuring a consistent project expenditure rate across all budget categories. Project milestones and stakeholders responsible for those milestones during the five year project period are outlined in Table 6. ***ESECP Project Management Timeline:***

Key Milestones	Key Staff Responsible						Year 1 2019-2020 (Pre)				Year 2 2020-2021 (Intervention Year 1)				Year 3 2021-2022 (Intervention Year 2)				Year 4 2022-2023 (Intervention Year 3)				Year 5 2023-2024 (Intervention Year 4)				Post Award				
	SCPS Exec	SCPS PM	SCPS SS	RMC	NIFDI	PaTTAN	CARD	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q3	Q4	
Complete district-level setup of special project and recruit program manager.	x						x																								
Revise and Finalize Fidelity of Implementation Checklists	x	x	x	x	x	x		x																							
Develop Qualitative measures and recruitment plan.	x		x					x																							
Develop and Finalize pre implementation checklist	x						x																								
Finalize Evaluation Design	x		x						x																						
Finalize Management Plan	x	x	x						x																						
Training Materials/Content Finalized	x	x							x																						
Give Parent/Teacher Questionnaire to treatment schools.	x		x				x			x				x							x										
Obtain Informed consent for Treatment Schools	x	x	x						x					x								x									
Hire/Onboard standardized test administrators	x								x					x								x									
Complete baseline/ follow-up standardized assessments for Treatment and comparison students	x	x	x						x	x				x	x							x	x								
Pre Implementation Checklist is complete for year 1 schools	x	x							x					x								x									
Determine Treatment and Match students	x	x	x							x				x									x								
Complete curriculum based assessments for student placement	x	x							x	x				x	x							x	x								
BCBAs visit to PaTTAN School Sites	x								x																						
Hire Academic Consultant (Teacher on Assignment)	x								x																						
Meet with stakeholders (CARD) to develop parent training schedule	x								x					x																	
Order Curriculum Materials and Supplies	x									x																					
Academic Coaches attend NIFDI DI Trainer/Coaching Institute	x	x								x																					
Conduct pre-service training for all treatment staff	x									x																					
Conduct Site Reviews (FOI)	x	x							x																						
Meet with stakeholders to review Site Review FOI data	x	x	x	x	x	x																									
Meet with stakeholders to review Curriculum Data	x	x	x	x	x	x																									
Hire Developmental Contulant (BCBA)	x																														
Compile and Review Results of Standardized Assessments	x	x	x	x	x	x				x																					
Administrator 1 Day Training (NIFDI+SCPS)	x	x	x	x						x																					
Meet with Stakeholders to Review State Assessment Data	x	x	x	x	x	x																									
Present Project @ Professional Conf.	x																														
Apply to state meeting agendas	x																														
Complete List of Annual Results	x																														
Complete Full Evaluation and Lessons Learned	x																														
Complete Academic Manuscript	x																														
Submit Final Mauscript to WWC/ERIC/Journals																															
Quarterly Meeting with RMC	x	x							x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Finalize Sections of ESECP Manual	x	x																													
SCPS Sustainability Plan Development	x	x																													

(C.2) *Qualifications of Key Personnel* -The district has selected a team of personnel who have the expertise and professional capacity to implement the major activities of this project with fidelity.[Resumes are included in Appendix B.]SCPS district executive leadership have confirmed school participation and their commitment in support of the EIR ESECP for the five year grant period across all targeted schools. Enclosed is a letter of commitment outlining their affirmation of the ESECP project initiatives and collaboration with principals to ensure appropriate student support. All elementary school principals have been informed about the grant application. As a part of the pre implementation checklist, each school administrator will sign a letter of support outlining the roles and responsibilities of the school and project staff. Roles, responsibilities, and qualifications of each key personnel are included in the ESECP Project Timeline and Table 4 below.

Table 7. *ESECP Project Personnel*

Key Personnel and Other Significant Project Staff	Role	Qualifications
Dr. Michelle Walsh	Executive Director of Exceptional Student Support Services. Coordinate with Project Manager. Responsible for dissemination of formative and summative data to executive leadership. Approve policies and sustainability plan.	PhD in Education Leadership
Sandra “Michelle” Guffee	Project Manager- Oversee all aspects of ESECP implementation as described in the goals and objectives, coordination with district, and grant partners. prepare annual reports, Attend USED meetings	Board Certified Behavior Analyst since 2010 Certified ESE and Elementary Education Teacher since 2004 Project manager for all current ESECP efforts.
Dr. Stephen Meyer and Dr. Emma Espel	Co-Lead Investigators-Prepare evaluation plan, communicate with SCPS project leadership, conduct winter and spring data collection visits, prepare annual report, share evaluation findings. Attend USED meetings	Stephen Meyer- PhD in Education (Measurement, Evaluation, and Statistical Analysis) Emma Espel- PhD in Developmental Psychology, What Works Clearinghouse Certified Reviewer.
Behavior Analyst (1) and Teacher on Assignment (3)- TBD	Provide Training and Consultation in ESECP classrooms to ensure fidelity of implementation.	Board Certified Behavior Analyst (BCBA) and Certified Teachers with Direct Instruction Teaching Experience

(C.3) Continued Support: As outlined within the goals table (Appendix I) Part 3-Goal 9 *implement a sustainability plan districtwide*, the ESECP project will take a dynamic approach in establishing sustainable methods, resources, and relationships that are consistent with ESECP programing. SCPS has demonstrated the ability to secure funds to support the implementation of the ESECP as evidenced by the self-funding of all aspects of the current *pilot* implementation. The district is committed to providing an opportunity for ongoing capacity building and consistency of student support and resources for students SWD through a sustainability plan. The sustainability plan will include a five-year post grant plan to sustain the whole school approach at treatment schools and onboard any interested non-treatment elementary schools as funds are available (objectives 9.2 and 9.3). Costs associated with curriculum materials and staffing will be assumed by the individual schools (consumable materials), and the district (new treatment schools) as local or external funds are available for this purpose. SPCS anticipates the ability to continue to fund the project manager to implement through the sustainability period. Parent training initiatives will be sustained through ongoing support by the following partnership - *University of Central Florida's Center for Autism and Related Disabilities (UCF-CARD)* (Appendix C).

D. Quality of the Project Evaluation *(D.1) Methods for Generating Rigorous Evidence of Project Effectiveness* - RMC Research Corporation will conduct the evaluation with a team led by two certified What Works Clearinghouse (WWC) reviewers, Dr. Stephen Meyer and Dr. Emma Espel. Stephany Brown will lead formative evaluation activities. RMC Research is well qualified, serving as a partner in three Regional Educational Laboratories (RELs), and bringing over 40 years of experience conducting rigorous evaluation projects funded by the Institute of Education Sciences, the National Science Foundation, state education agencies, and others.

The evaluation will include a summative quasi-experimental design (QED) study of impact on students designed to provide evidence that meets *WWC Group Design standards with reservations*, a mixed methods formative component focused on measuring fidelity of implementation to inform continuous improvement, and dissemination strategies to provide guidance about ESECP strategies that may be suitable for replication in other settings. Findings may also be used to inform evaluation of related initiatives or research conducted as part of a subsequent EIR mid-phase grant. The implementation strategy maximizes opportunities for continuous program development and improvement based on formative evaluation feedback and data about fidelity of implementation while providing data for a rigorous study of impact. The following questions will guide the evaluation:

		Evaluation Questions	Associated Project Goals
Fidelity		(1) To what extent is the ESECP implemented with fidelity in participating schools and classrooms over time? (2) How does the ESECP implementation fidelity vary according to characteristics of teachers and schools? (3) What factors serve to facilitate or impede ESECP implementation?	Goals 1, 2, 3
Impact	Confirmatory	(4) How does the ESECP affect student academic outcomes (oral language skills) after one year of participation?	Goal 6
	Exploratory	(5) How does the ESECP affect other student academic outcomes (e.g., performance on district- and state-administered assessments) after one year of participation? (6) To what extent does the ESECP affect teacher retention, practice, and satisfaction? (7) To what extent does the ESECP affect parent involvement in schooling and parent satisfaction? (8) How does the impact of the ESECP change over time? (9) How are the effects of participation in the ESECP mediated by the nature and extent of implementation and by interim measures of student progress (e.g., school attendance)? (10) How does implementation of ESECP change for each school over time, how does ESECP disseminate research findings, and how does SCPS transfer responsibilities for independent sustainability of activities within each school?	Goals 4, 5, 6, 7, 8, 9
	Subgroups	(11) How does the impact of the ESECP vary for student subgroups (e.g., primary exceptionality, socio-economic status, students on the developmental vs. academic route, gender, race/ethnicity, grade level) and by characteristics of teachers and schools (e.g., teacher experience, aggregated student demographics)?	Goal 6

Impact Evaluation. For this QED, confirmatory impact analyses will focus on outcomes after one year of participation in the ESECP. Supplemental analysis of outcome data collected from intervention and matched comparison students during each year of the study will allow for examination of program impact after multiple years of receiving the intervention and longitudinal growth of intervention students. Between two and four elementary schools will begin implementing the ESECP during each of four academic years resulting in a total of 13 intervention schools by 2023/24. While SCPS and RMC Research considered a school-level random assignment design, we determined that the proposed QED study better aligns with available resources to support implementation by using a cohort design with incremental addition of intervention schools. **Matched Comparison Students.** Comparison schools will be drawn from SCPS elementary schools that have not implemented ESECP and are on the wait-list for implementation within five years. SCPS anticipates no challenges related to comparison school recruitment based on ongoing contact with district schools. Propensity score matching (PSM) will be used to identify matched students in similar comparison schools not implementing the ESECP during each of four years of ESECP implementation. Comparison students include ESE students in Grades K-5 who receive instruction as usual at comparison schools. Students will be matched at baseline using data collected in spring of the prior academic year including: prior achievement and attendance, and student characteristics (including primary exceptionality, grade level, gender, race/ethnicity, and free or reduced-price lunch eligibility). School characteristics will also be included (such as percent of students eligible for free or reduced-price lunch, race/ethnicity, English Learners, enrollment, and academic performance). During each year, the number of schools from which comparison students will be selected will be greater than the number of intervention schools to provide a larger pool of students who can be matched

(and thereby increase the probability of strong matches). Logistic regression will be used to create a propensity score for each student and models using nearest neighbor and a strict caliper will help ensure strong baseline equivalence, with a goal of no characteristics of interest differing by more than 0.25 standard deviations at baseline in accordance with WWC standards. **Sample and Power Analysis.** The implementation strategy and anticipated school and student samples are summarized in Table 8. We expect the primary analytic sample for confirmatory impact analyses to include approximately 2,060 ESE students in Grades K-5 (half of whom are ESECP intervention students), with an average of 79 students per school. To the extent possible, new comparison schools (from which comparison students will be drawn) will be selected each year. Students will not be included in multiple cohorts; once they are included as a match, they will remain a single unit. This approach minimizes contamination bias but maximizes the sample size to have sufficient power to detect a medium effect size.

Table 8. **Implementation strategy and anticipated school and student samples**

	Y1 (2020/21)	Y2 (2021/22)	Y3 (2022/23)	Y4 (2023/24)	Total
Intervention sites (number of new schools each year)	2 schools (138 students)	4 schools (288 students)	4 schools (327 students)	3 schools (277 students)	13 schools (1,030 students)
Schools from which matched comparison students will be drawn	4 (of 16 not implementing)	6 (of 12 not implementing)	6 (of 8 not implementing)	5 (of 5 not implementing)	5 that remain comparison through 2023/24
Anticipated analytic sample of students	276	576	654	554	Recruited sample 2,060 (1,030 intervention and 1,030 comparison) Analytic Sample with 10% Attrition 1,854 (approximately 927 intervention and 927 comparison)

Power analysis conducted using Optimal Design (Spybrook et al., 2011), accounting for 10 percent attrition (and with the following parameters: 71 students per school in the intervention or comparison condition, $\alpha = .05$, $R^2 = .79$, $ICC = .13^3$, power = .80), suggests that the proposed design yields a minimum detectable effect size of 0.29.⁴ **Analyses.** Baseline equivalence will be assessed on student demographic characteristics and pre-test measures. Any characteristics demonstrating non-equivalence (defined by the WWC as between 0.05 and 0.25 standard deviations) will be included as covariates in impact analyses. A series of two-level hierarchical linear models (HLM) will be used to assess impact on student outcomes with students nested within schools. The models will account for school-level condition (intervention or comparison), pre-test scores, school, cohort, and any characteristics that were not equivalent at baseline.

³Design parameters including the ICC and R^2 were selected based on the national probability sample of Kindergarten reading achievement from the Early Childhood Longitudinal Study in urban settings in the southern region of the United States (University of Chicago Center for Advancing Research and Communication, n.d.).

⁴No studies of this intervention or substantially similar interventions exist to inform an expected effect size. Studies that include components of this intervention with similar outcome measures find relatively high effect sizes, however. For example, a recent meta-analysis of interventions using Direct Instruction found an average effect size of .54 for student language outcomes (Stockard, Wood, Coughlin, & Khoury, 2018). A meta-analysis of the effects of Tier 2 type elementary reading interventions for students found effect sizes on standardized and unstandardized foundational and language/comprehension measures to be relatively large, ranging from .36 to 1.02 (Wanzek, et al., 2016).

Impact on WJ-IV scores will be examined in the confirmatory impact model and other student outcome measures will be examined in supplemental exploratory models. Exploratory models will also be used to examine longitudinal growth and impacts on students who have participated in the intervention for up to four years. (D.2) *Effective Strategies for Replication* - The project team will meet at least quarterly to review progress on the evaluation and discuss informal feedback related to continuous improvement. RMC Research will provide formative evaluation reports annually to project leadership, with a focus on preliminary student outcome data, implementation fidelity and adherence to minimum thresholds, challenges to be addressed, potential for gradual release of program responsibilities to individual schools, and emerging best practices that may be shared. RMC Research and SCPS will share selected findings with SCPS stakeholders to facilitate continuous improvement and will document best practice implementation strategies for replication or testing in other settings. RMC Research and SCPS will also develop at least three brief reports of findings for external audiences to share information about project implementation and outcomes and increase the potential for ESECP strategies to be replicated and tested in multiple settings. The first report will focus on findings from qualitative data collected in Year 1, providing detailed information about ESECP implementation, development of fidelity measures and meaningful implementation fidelity thresholds, and initial lessons learned. The second report will use quantitative data from Years 2 and 3 as the basis for exploratory analyses relating aspects of ESECP implementation to outcomes for ESECP participants. This report is expected to provide initial evidence that may be used to highlight promising strategies that may be suitable for replication. The third report will present results from the proposed impact study, using data collected during Years 1 through 4.

This report will document the impact of ESECP participation, suggesting aspects of implementation associated with stronger outcomes, students for whom outcomes are strongest, and contexts in which ESECP is most effective. The third report will also summarize progress toward sustaining ESECP, lessons learned, and practices that may inform replication of promising ESECP strategies. (D.3)*Valid and Reliable Performance Data* - Student outcome data will be collected in spring of each year for all intervention and potential comparison students from spring 2020 through spring 2024. Student outcome measures include widely-used assessments with evidence of reliability and validity. Specific assessments are described earlier in the proposal and include standardized measures of oral language, reading, and mathematics proficiency. Student attendance data will be collected from administrative records. Qualitative data will be collected in the spring of each year from members of all stakeholder groups (students, parents, teachers, school administrators, district administrators, and project leaders) using observations, interviews and focus groups. Surveys of participating teachers, parents will be administered annually. Administrative data from the district will be collected about information such as teacher retention, student performance on district and state assessments, and student attendance. Meeting notes, training materials, implementation records, and related documents will be collected from project stakeholders with support from project leadership. Interviews, focus groups, and parent and teacher surveys will be used to document teacher and parent participation in and satisfaction with professional development and training activities, and teacher implementation experiences, challenges, and suggestions for improvement. During Year 1, the evaluation team will collaborate with SCPS to develop the teacher survey and qualitative evaluation instruments based on existing tools with evidence of reliability and validity.

The Florida Department of Education administers an annual parent satisfaction survey related to ESE services and FL DOE priorities for parent involvement. Results by school are available in fall of each academic year for the prior year. Prior survey response rates average about 13 percent in SCPS.² The project team will develop annual recruitment initiatives to increase response rates such as announcements, emails, and flyers. During Years 2-5, interviews and focus groups with ESECP leaders and key stakeholders at each site will provide information about the opportunity for transfer of project responsibilities to individual schools, sustainability of initiatives, and information about possible strategies suitable for replication. Formative assessments will occur twice per year and findings will be used to recommend adjustments to implementation as needed. (D.4)*Evaluation of Project Implementation* - Fidelity of implementation to the ESECP model will be formally assessed twice annually using the ***ESECP Site Review Form***, a project-specific checklist designed to assess implementation fidelity, with a separate version for academic and developmental classes. Teachers are expected to demonstrate adherence to a minimum of 80 percent of composite implementation components and each sub-component (e.g., classroom organization, classroom environment, arrangement of instructional materials and materials organization, and data systems). The fidelity checklist addresses quantity (e.g., student schedules must include intervals of 30 minutes or less) and quality (e.g., 75% of all intervals must correlate with instructional targets). The form has been used for 3 years in over 40 classrooms and a recent analysis showed high (90%) interobserver agreement. During Year 1, reliability and validity of the ESECP Site Review form will be established through expert review and analysis of inter-observer agreement.

² <http://www.fl DOE.org/academics/exceptional-student-edu/parent-info/exceptional-student-edu-parent-survey.shtml>

RMC Research will work with SCPS program experts and draw upon existing strategies (e.g., Century, Rudnick & Freedman, 2010; Fixsen Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Hulleman & Cordray, 2009) to ensure that fidelity thresholds are meaningful and to develop a reliable composite fidelity index that includes Site Review Form ratings, and ensures each activity included in the program logic model is included. This index will be used to identify sites that are not meeting recommended usage; provide initial correlational evidence of the relationship between fidelity and student outcomes to reinforce the empirical basis for the threshold; inform continuous program improvement; and communicate optimal thresholds for fidelity of implementation for possible replication sites. It will also be included as a potential mediator of the relationship between ESECP participation and student outcomes. Dosage will be measured for each student as: (1) the total number of minutes of each type of instruction, and (2) the number of completed lessons by students using the *ESECP Lesson Progress Chart*, which is a daily record of the lessons in which each student is engaged.

Analyses. Descriptive and correlational analyses of fidelity data will be used to characterize implementation fidelity over time and to assess the relationship between implementation fidelity and (1) characteristics of teachers and schools, and (2) project outcomes. Interaction terms will be used in impact models to examine how student, teacher, and school characteristics may interact with the intervention and lead to weaker or stronger student outcomes for student subgroups or among schools and teachers with particular characteristics. In addition to implementation fidelity, likely moderators to be examined include student primary exceptionality, socio-economic status, participation in developmental vs. academic classes, gender, race/ethnicity, grade level, and teacher experience with students with disabilities.

Mediation models will test the influence of interim outcomes (e.g., attendance), lesson progress feedback, and teacher practice and satisfaction as mechanisms by which the intervention may impact academic achievement. Parent and teacher survey data will be analyzed using basic descriptive statistics and non-response bias will be assessed using administrative district data. Repeated measures Analysis of Variance (ANOVA) will be used to examine change over time, focusing on teacher practice. Exploratory analysis of longitudinal student outcomes will also use this approach to examine growth in outcomes beyond the first year for intervention students, and differences in outcomes between intervention and comparison students who have received the intervention for multiple years (with subsamples of participants with data for two, three, or four consecutive years). Qualitative data collected through interviews, focus groups, observations, and document analysis will be analyzed for trends and will serve to triangulate findings from the impact study as well as provide formative feedback using a well-defined approach (Miles, Huberman, & Saldaña, 2014).