

**Fostering Educational Success (FES): Reconnecting Families, Empowering Youth**  
*Education Innovation and Research Program – Early Phase Application*

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## SECTION A: PROJECT SIGNIFICANCE

*“A positive PK-12 education experience has the potential to be a powerful counterweight to the abuse, neglect, separation, impermanence, and other barriers these vulnerable students experience.”*  
(U.S. DOE Statement on Foster Care, 2016, p.1)

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### A.1 Potential Contribution to Increase Knowledge and Address Educational Problems

Nearly half of students involved in the foster care system will fail to graduate high school with their peers (National Foster Youth Institute [NFYI], 2018). We propose *Fostering Educational Success (FES)* to improve the educational outcomes of secondary students (grades 6-12) involved in foster care through interconnecting evidence-based practices across three primary domains: school engagement, homework engagement, and family functioning. *FES* addresses key recommendations identified in the DOE’s Students in Foster Care document (2016) which provides guidance including engaging primary stakeholders, collaborating between child welfare agencies and school districts, seamless transferring of records, and using evidence-based educational and social-emotional supports. *FES* aligns with Absolute Priorities 1 and 2 (Demonstrates a Rationale and Field-Initiated Innovation – General), and builds on over a decade of DOE-supported work on the development and evaluation of On the Way Home (OTWH; Epstein & Trout, 2007), an evidence-based educational aftercare program for students reunifying with their families following placements in therapeutic residential care. Designed as an extension of OTWH, we are proposing this EIR Early-Phase project to iteratively modify and evaluate the promise of *FES* to improve the educational outcomes of high-needs students served in the foster care system.

Approximately 443,000 students (one out of every 184 children) are served each year in foster care (AFCARS, 2018; CWIG, 2016). These students are often exposed to chaotic, unstable, and high-risk environments and placed into unfamiliar home and school settings (Zetlin, Weinberg, & Shea, 2006). Coupled with limited supports, these conditions lead to

instability and poor long-term academic outcomes (Courtney, Terao et al., 2004; Pecora, 2006). Ultimately, reunification with a parent, primary caregiver, or relative is the permanency plan for more than two thirds of students in the foster care system (AFCARS, 2018; Child Welfare Information Gateway, 2016). Reunification presents many challenges as students return to home environments that may continue to be affected by poverty, financial instability, domestic violence, or mental illness (Foster & Gifford, 2005; Mallon & McCartt Hess, 2006). Students also face continued difficulties because foster care does not typically provide the services and supports necessary to address the comprehensive social, emotional, and educational needs that are provided in more restrictive settings such as therapeutic residential care (Burns et al., 2004). As a result, educational outcomes for reunifying students in foster care are too often poor.

Nationally, students in foster care present with lower grades and standardized test scores; higher rates of absenteeism, tardiness, and truancy; and do not advance to their full academic potential (Center for State Child Welfare, 2011; Courtney et al., 2007; National Foster Care Review Coalition [NFCRC], 2009; Pecora, 2012). Between 30-66% of students in foster care are diagnosed with a disability, 33-45% are retained at least once, and by the age of maturity, these students are disrupted by school changes as many as seven times (Courtney, Terao, et al., 2004; NFCRC, 2009; Pecora et al., 2006). This instability results in delayed or missing school records, delayed enrollment in school, poor communication across providers, delayed academic progression (Basca, 2009; Parrish et al., 2001; Pecora, 2012), and negative social-emotional consequences such as alienation and poor relationships with teachers and peers, loss of self-efficacy, and detachment from school (Basca, 2009). Ultimately, these challenges impact post-school outcomes as students in foster care are three times more likely to drop-out of school, only 11% will attend college, and even fewer (3%) will graduate (Barrat & Berliner, 2013; Child

Trends Data Bank, 2015; NFYI, 2018; U.S. DOE, 2015). As a result, these outcomes maximize risks into adulthood including unemployment, financial instability, poverty, and homelessness (Courtney & Heuring, 2005; Dworsky, 2005; Pecora et al., 2006).

Despite these continued challenges, facilitators of success can prevent negative long-term consequences. Schools provide particularly strong protective factors that promote resilience when students are exposed to adverse events. School-connected students are more likely to have better school attendance, remain in school, and attain greater academic success (Centers for Disease Control [CDC], 2016). To change the trajectory for students in foster care, *FES* will use a comprehensive and systematic approach to support these high-needs students and promote home and school stability. Support from EIR will allow for (a) the development, refinement, and preliminary evaluation of *FES*, and (b) the development of the training, supervision, dissemination, and evaluation infrastructure necessary for dissemination and evaluation at regional and national levels. Findings will also contribute to increased knowledge and understanding of the educational problems of middle and high school students involved in the foster care system as well as effective strategies for promoting educational success.

## **A.2 Development and Demonstration of Promising New Strategies**

*FES* is a promising new strategy that is built on, and modified from, an existing effective strategy. For over a decade, our team has worked to develop, implement, and evaluate OTWH, a manualized evidence-based program designed to improve the education and placement stability outcomes of students returning to home and community school settings following placements in therapeutic residential care (Trout, Tyler et al., 2012). Developed and tested for efficacy through two DOE grants (CFDA #R324B070034 2007-2012 and #R324A120260 2012-2018), OTWH is listed as promising on the California Evidence Based Clearinghouse for Child Welfare (CEBC).

In our initial randomized controlled trial (RCT) evaluation of OTWH ( $N = 88$ ; 53 schools/22 districts), at 12-months post-reunification the odds of remaining at home and staying in school were 5 and 3 times greater, respectively, for OTWH students than for students in the control condition (Trout, Lambert, et al., 2013). In the larger efficacy and replication RCT ( $N = 187$ ; 136 schools/47 districts), findings continued to demonstrate promising effects of OTWH and extended outcomes to 21-months after discharge from therapeutic residential care. Specifically, while the immediate gains were similar between groups, long-term follow-up outcomes indicated the odds of staying in school and remaining at home were approximately 2.5 and 2.3 times greater, respectively, for students in OTWH compared to students in the control condition. Finally, although the primary goals of OTWH are to promote school and placement stability, significant differences were found between treatment and control conditions on caregiver self-efficacy ( $d = 0.67$ ) and indicators of family ( $d = 0.48$ ) and community ( $d = 0.64$ ) empowerment. These outcomes provide evidence that when schools, students, and caregivers are equipped to navigate the school and home environment, student educational outcomes and stability increase. Given these findings, we believe this approach holds promise for high-needs students in foster care, making the core constructs of OTWH a well-suited starting place for FES development. However, as OTWH was designed as *aftercare to maintain skills and behaviors* learned during placement in *therapeutic residential care*, modifications are necessary to align with the needs of students served in foster care. Thus, while maintaining the primary domains of OTWH, *FES* will include additional supports specific to the educational and family needs of reunifying students in foster care (see Table 1).

***FES Program Description.*** *FES* is proposed as a 12-month home-school support program designed to improve the educational outcomes of reunifying middle and high school

Table 1. *Comparison Between Existing OTWH Program and Proposed Modifications for FES*

	OTWH	FES
<b>School Engagement</b>		
Weekly meetings with students and school contacts to discuss academic goals/progress	✓	✓
Implementation of needs-based school interventions determined through educational risk indicators monitored by Family Consultants (FCs) and caregivers	✓	✓
Caregiver connections with school contacts to assist with navigating school systems (e.g., special education, enrollment) and monitoring of school communication (e.g., email, Power School)	✓	✓
<b>New</b> Quarterly progress meetings with caregivers, students, FCs, and school contacts		✓
<b>New</b> Identification of school or employment activities to promote student connectedness to school		✓
<b>Homework Engagement</b>		
Established homework environment, routine, and expectations	✓	✓
Caregiver training on homework completion strategies	✓	✓
<b>New</b> Student completion of homework notebook and weekly reviews with caregivers and FC		✓
<b>Family Functioning</b>		
One-on-one caregiver trainings on core skills necessary for promoting school and home stability (e.g., communication, family meetings, establishing consequences, reinforcing positive behaviors, decision-making, self-control)	✓	✓
<b>New</b> Caregiver and student trainings specific to those involved with foster care (e.g., creating stable families, stress and anger management, substance use, reducing family conflict)		✓
<b>Service Delivery</b>		
FC <sup>a</sup> completion of 35 hours of program-specific training	✓	✓
Weekly supervision meetings between Clinical Supervisor <sup>b</sup> and FC	✓	✓
<b>New</b> FC completion of 15 hours of training to strengthen knowledge of families involved in foster care (trauma informed care, resilience, educational advocacy, child maltreatment)		✓
<b>New</b> Decreased FC caseloads and increased contact time with students and families		✓

*Note.* <sup>a</sup>FCs must have a minimum of a bachelor's degree in psychology, social work, education, human services, or related field. <sup>b</sup>Clinical Supervisors must be Licensed Mental Health Practitioners. <sup>c</sup>School contacts are school personnel (i.e., administrators, counselors, special education teachers, general education teachers, administrative assistants) who are identified by the school to meet with the student, family, and FC weekly.

students following placements in foster care. Capitalizing on the interdependence between student performance at home and school, trained Family Consultants (FCs) will work through a three-stage process with the students, caregivers, and schools to implement interconnected evidence-based practices in the domains of school engagement, homework engagement, and family functioning. Stage one (4-6 weeks pre-reunification) will involve strategies to prepare the schools and families for reunification. The objective of this stage is to promote a seamless and stable transition for students through identifying school contacts, developing individualized

family plans and goals, transferring student files, establishing homework routines, and beginning caregiver training on skills to promote home and school stability. Stage 2, beginning at reunification through 9-months, includes the implementation of strategies to promote school/caregiver weekly monitoring of students' school engagement (e.g., attendance, involvement in school activities), family/student homework engagement (e.g., maintaining supportive in-home homework environment, applying homework strategies, completing homework notebooks), and positive family functioning (e.g., student and caregiver training on core skills necessary for promoting school and home stability). Finally, Stage 3 (maintenance: months 10-12) will focus on discharge planning; establishing additional supports to maintain school and home stability; and ensuring that the schools, students, and families are able to continue the home and school-based strategies following *FES* completion. Each *FES* program component and service delivery element are empirically supported, and in isolation, have produced significant results on student and family outcomes (see Table 2). When combined, the elements that make up *FES* are intended to effectively prepare the students, families, and schools to monitor and promote successful behaviors resulting in short-and long-term educational success.

In an effort to identify existing educational support approaches for students involved in foster care, we conducted a comprehensive review of 19 evidence-based practice registries. Three existing programs were found (KITS: Pears, 2012; My Life: Blakeslee, 2017; Better Futures: Blakeslee, 2016). While these programs target aspects of the educational functioning of students in foster-care, the proposed *FES* program is unique in that it (a) specifically targets the educational needs of middle and high school students; (b) includes the intensive caregiver supports necessary for promoting long-term stability, educational engagement, and success; (c)



provides 12-months of support; (d) addresses homework engagement supports for students and caregivers; (e) is individualized to meet the needs of students, families, and educators; and (f) includes fully developed products for sustainability (e.g., *FES* program manual, comprehensive training and supervision protocols, on-line training videos, fully developed measures). (See Appendix I.1 for registry review and comparison to existing approaches).

Table 2. *FES Components and Empirical Support*

School Engagement	<p><i>Dropout Prevention</i> - Monitoring of student performance, the provision of academic opportunities, school and family support, educational goal setting, and overall school engagement are critical factors in the prevention of school failure and dropout (Sinclair, Christenson, &amp; Thurlow, 2005; Randolph, Fraser, &amp; Orthner, 2004; Reschly &amp; Christenson, 2006). <i>Check &amp; Connect<sup>a,b</sup></i> (C&amp;C) is an evidence-based dropout prevention program that uses frequent monitoring of high-risk educational behaviors to prevent school failure and build communication between the schools, students, and families. Studies have demonstrated that C&amp;C significantly affects critical school functioning behaviors, including truancy and dropout, the number of credits obtained, and the number of students successfully completing school (Sinclair et al., 1998; Sinclair et al., 2005). <i>FES</i> will incorporate a modified version of C&amp;C used in the existing OTWH model and will be implemented by the FC and a program-identified school contact who serves as a liaison between the FC and teachers.</p> <p><i>School Connectedness</i> - Involvement in school or employment activities serves as a protective factor and helps increase resilience, promotes attachment to school, and decreases engagement in risk behavior for students in foster care (Development Services Group, Inc. &amp; Child Welfare Information Gateway, 2015; Dotterer, McHale, &amp; Crouter, 2007; Feldman &amp; Matjasko, 2005; O'Connell, Boat, &amp; Warner, 2009). FCs will work with the students, families, and school contacts to identify preferred interests in extracurricular school activities or employment opportunities. FCs will also formally assist the students and caregivers in taking necessary action (e.g., completing applications, accessing physical exams, identifying transportation) to facilitate involvement and maintain engagement.</p> <p><i>Parental Engagement in School</i> - Caregiver engagement in school activities and ongoing parent-school communication greatly influence students' attainment of educational goals and achievement (Hill &amp; Tyson, 2009; Hoover-Dempsey et al., 2005; Jeynes, 2003, 2005, 2007, 2012; Patall, Cooper, &amp; Robinson, 2008). FCs will identify and link caregivers to a school contact, reducing the barrier caregivers face with navigating aspects of the school; work with the caregiver to understand school policies and expectations; answer questions; and assist the caregivers with completing any school involved paperwork. Caregivers will attend an introductory meeting, followed by quarterly meetings with the school contact, FC, and student to monitor progress.</p>
Homework Engagement	<p><i>Homework Support</i> - Caregiver involvement in, and monitoring of, homework improves academic success, homework behaviors, school attitudes, perceptions of academic competence, and child psychological functioning (Hill &amp; Tyson, 2009; Hoover-Dempsey et al., 2005; Jeynes, 2012; Patall, Cooper, &amp; Robinson, 2008). The <i>Homework Intervention<sup>b</sup></i> combines instruction for caregivers on academic engagement supports. Through formal training and ongoing coaching, FCs will work with caregivers to (a) establish rules and environments for completing homework, (b) implement strategies to facilitate homework-related discussions, (c) develop homework routines, (d) establish a homework tracking and monitoring system, (e) identify and address potential barriers that may prevent homework completion (e.g., skill deficits, disorganization), and (f) monitor online education portals to track work completion and risks.</p> <p><i>Homework Self-Management</i> - Self-management interventions are effective at improving the completion and accuracy of homework in students at-risk, improve overall academic functioning and school performance, and are generally well accepted by students (Cancio, West, &amp; Young, 2004; Mooney, Ryan, Uhing, Reid, &amp; Epstein, 2005; Reid, Trout, &amp; Schartz, 2005). The <i>Homework Self-Management Strategy</i> will be implemented by the FCs to teach students methods to track homework assignments; check for completion; monitor upcoming tests, quizzes, or school projects; and organize other school-related tasks. Students will complete these tasks independently and review completion with their caregivers and FCs weekly.</p>

*Family Engagement & Stability* - Caregiver involvement, positive parenting, and caregiver self-efficacy are important factors in a child's educational success (Bronstein, Ginsburt, & Herrera, 2005; Jones & Prinz, 2005; Kim & Schneider, 2005). The *Strengthening Families Program (SFP)*<sup>c,d,e</sup> is an evidence-based family skills training program. FCs will work with families to complete all 14 lessons in the SFP manual (e.g., Communication and Fun Family Meetings; Limits and Consequences; Stress and Anger Management Skills; Reducing Family Conflict; Creating Stable Families & Sharing Success). Studied in five RCTs and over 100 pre-post evaluation studies, SFP has been found to significantly improve caregiver skills and family relationships; reduce problem behaviors, delinquency, and alcohol and drug abuse in children; improve social competencies and school performance; decrease child maltreatment; and strengthen family bonds.

Note. <sup>a</sup>Listed on What Works Clearinghouse as an Evidence-Based Intervention. <sup>b</sup>Listed on The California Clearinghouse of Evidence-Based Programs in Child Welfare as part of OTWH. <sup>c</sup>Listed on the California Clearinghouse of Evidence-Based Programs in Child Welfare. <sup>d</sup>Listed on the SAMHSA National Registry of Evidence-Based Programs and Policies (NREPP). <sup>e</sup>Listed on the Clearinghouse of Military Family Readiness.

## SECTION B: PROJECT DESIGN

### B.1 Goals, Objectives, and Outcomes

The *FES* team will address Goal 1 during Pre-Planning and Phase A. Goal 1 will be achieved through collaborative efforts between students and caregivers who have been through the reunification process, the original developers and evaluators of OTWH, experts in foster care, school personnel (e.g., counselors, educators), and service providers (e.g., foster care specialists; See Table 3). We will conduct a six-month feasibility study of the modified *FES* program with two FCs, 20 families, and 20 school contacts to test the implementation and social validity of the refined model (See Table 3). Upon completion, members of the *FES* team will analyze implementation data and conduct Nominal Group Technique (NGT; Welbeck et al., 1986) focus groups and structured interviews to further refine *FES*. Outcomes will result in a refined *FES* prototype, measures, FC Implementation Database, and Data Management and Secured Participant Databases for pilot testing in Phase B.

**Recruitment method.** The first 20 assenting students (and consenting caregivers) departing from the [REDACTED] from December 2019-January 2020 who meet the following criteria will serve as participants and receive six months of *FES*: (a) returning to a home within 60 miles of Omaha or Lincoln including rural, urban, or suburban areas; (b) grades 6-12; and (c) English speaking. Eligible students can have a permanency plan for any of the

following: permanent kinship placements, adoptive placements, bio placement, or other stable permanent settings. For cases in which several siblings are reunifying and meet inclusion criteria, a random numbers table will be used to identify a primary child targeted to receive *FES* and for whom all measures will be completed. Replicating the approach used in the original OTWH program, school contacts will be identified by the school administrators and consented by the FCs for participation in the study. School contacts include any school personnel who is knowledgeable about the reunifying student and is able to meet with the student, family consultant, and/or caregiver for an average of 10 minutes per week. This recruitment process for caregivers, students, and school contacts will be used across all phases.

Table 3. *Pre-Planning and Phase A Goals, Objectives, and Anticipated Outcomes*

<b><i>Goal 1: Adapt, enhance, and integrate FES program components to address the educational needs of students returning to the family home following placements in foster care.</i></b>
<p><u>Pre-Planning Objectives:</u> (1) Conduct four Nominal Group Technique (NGT) focus groups with key stakeholders (students, caregivers, school personnel, service providers); (2) Hold one meeting with the expert advisory board to solicit feedback on <i>FES</i> modifications; (3) Develop three measures for feasibility, fidelity, implementation, dosage, and quality (<i>FES Program Competency Test</i>, <i>Family-School Engagement Tracking Sheet</i>, and <i>Parent Training Self-Report &amp; Observation form</i>); (4) Refine two measures for implementation and fidelity (<i>Daily Report Logs</i> and <i>FES Program Fidelity Instrument</i>); (5) Develop the FC Implementation Database; (6) Develop Data Management and Secured Participant Databases; (7) Train two FCs to 90% proficiency on the <i>FES Program Competency Test</i>; (8) Convert existing FC training modules (<i>Trauma</i>, <i>Child Maltreatment</i>, <i>Educational Advocacy</i>) to web-based platform.</p> <p><u>Phase A Objectives:</u> (1) Recruit and consent/assent 20 families; (2) Recruit and consent 20 school contacts; (3) Obtain 90% district participation rate; (4) Implement <i>FES</i> at 90% fidelity; (5) Conduct three follow-up NGT focus groups with students, caregivers, and school contacts; (6) Conduct individual follow-up interviews (8 students, 8 caregivers, 8 school contacts); (7) Hold two meetings with the expert advisory board; (8) Refine the FC Implementation Database; (9) Refine the Data Management and Secured Participant Databases; (10) Refine measures based on feedback from focus groups, interviews, pilot study, and expert advisory board; (11) Refine program components based on feedback from satisfaction surveys, FC journals, focus groups, interviews, pilot study, and expert advisory board.</p> <p><u>Outcomes:</u> (1) A fully developed prototype of <i>FES</i> (i.e., components, training, and supervision) that can be tested with students exiting foster care who have permanency plans for reunification; (2) Prototypes of the implementation and outcomes measures; (3) Prototype of the FC Implementation Database; (4) Prototypes of the Data Management and Secured Participant Databases; (5) Completed web-based training modules for FCs.</p>

Goal 2 will be addressed in Phase B through a six-month pilot study with 36 families to test the *FES* prototype and measures developed and refined in Phase A (See Table 5). The purpose of Phase B (See Table 4) is to (a) test the implementation of the revised *FES* program based on feedback and input from Year 1, (b) further refine trainings and services, (c) evaluate

participant buy-in and retention, (d) test measure quality and implementation fidelity, (e) determine *FES* acceptability, and (f) evaluate and adjust FC caseloads. We will conduct follow-up focus groups, interviews, and meetings with the expert advisory board to finalize the *FES* program, training, supervision, evaluation, and fidelity procedures for the Phase C RCT.

Table 4. *Phase B Goals, Objectives, and Anticipated Outcomes*

<b>Goal 2: Conduct a preliminary six-month pilot study of <i>FES</i> and further refine components.</b>	
<p><b>Phase B Objectives:</b> (1) Two FCs will complete 50 hours of <i>FES</i> program training; (2) FCs will attain 90% proficiency on the <i>FES Program Competency Test</i>; (3) Recruit/consent/assent 36 students and caregivers; (4) Recruit/consent 36 school contacts; (5) Obtain 90% district participation rate; (6) Implement <i>FES</i> at 90% fidelity; (7) Conduct three follow-up NGT focus groups with students, caregivers, and school contacts; (8) Conduct 30 individual follow-up interviews (10 student, 10 caregiver, 10 school contacts); (9) Hold two meetings with the expert advisory board; (10) Revise and finalize the FC Implementation Database; (11) Revise and finalize the Data Management and Secured Participant Databases; (12) Finalize any remaining refinements to measures; (13) Revise and finalize any remaining <i>FES</i> program refinements; (14) Refine FC web-based trainings.</p>	
<p><b>Outcomes:</b> (1) Fully developed <i>FES</i> program (i.e., <i>FES</i> components, training, and supervision); (2) Fully developed implementation and outcomes measures; (3) Fully developed FC Implementation Database; (4) Fully developed Data Management and Secured Participant Databases; (5) Refined web-based training modules.</p>	

Table 5. *Measures for Phases A and B*

<b>Construct</b>	<b>Measure</b>	<b>Respondent</b>	<b>Occasion</b>
Competency	<i>FES</i> Program Competency Test <sup>a</sup>	FC	Post-training
Implementation /Adherence	Daily Report Logs (DRL) <sup>b</sup>	FC	Daily
	Check & Connect Monitoring Sheet (C&CMS)	FC	Weekly
	Family-School Engagement Tracking (FSE) <sup>a</sup>	FC	Bi-monthly
	Homework Checklist (HC)	FC	Intake/Quarterly
	Parent Training Self-Report & Observation Forms <sup>a</sup>	FC	Intake/Monthly
	<i>FES</i> Program Fidelity Instrument (PFI) <sup>b</sup>	CS	Monthly
Social Validity	Component Specific Questionnaire (CSQ) <sup>b</sup>	S,C,SC	Post <i>FES</i>
	NGT Focus Groups <sup>c,d</sup>	S,C,SC	Prior to 6-month pilot, Post <i>FES</i>
	Follow-up Interviews <sup>d</sup>	S,C,SC	Post <i>FES</i>

Note. CS = Clinical Supervisor, FC = Family Consultant, C = Caregiver, S = Student, SC = School Contact. <sup>a</sup>Indicates measure will be developed as part of the *FES* project activities. <sup>b</sup>Indicates measure was developed in OTWH but will be refined for *FES*. <sup>c</sup>Conducted during *FES* development to gather feedback about necessary program components. <sup>d</sup>NGT focus groups and follow-up interviews will be conducted following the completion of Phase A and B pilot studies to determine social validity and further refinement needs prior to the Phase C RCT.

Goal 3 will be addressed in Phase C, project years 3-5. During Phase C the *FES* team will conduct an RCT to evaluate the effects of the revised *FES* program on the educational outcomes of students reintegrating into the home and school settings following placements in foster care (see Table 6). As an objective of this EIR project is to develop programs and identify practices that demonstrate a significant impact on high-needs student outcomes, we will assess outcomes

related to student school attendance, academic performance, connectedness to school, homework completion, caregiver involvement in school, and family functioning as well as treatment adherence and social validity (see Table 7; Appendix I.2 for full measure description). Because small effects may have little impact on overall outcomes (e.g., an increase in homework completion by one assignment per week), we are particularly interested in evaluating effects that demonstrate clinical importance and suggest a significant and meaningful effect on long-term educational success and stability.

Table 6. *Phase C Goals, Objectives, and Anticipated Outcomes*

<p><b><i>Goal 3: Examine the effects of FES on the educational engagement, performance, and placement stability of students following reunification from foster care.</i></b></p> <p><b>Phase C Objectives:</b> (1) Recruit/consent/assent a minimum of 288 families (144 treatment, 144 control); (2) Recruit/consent 288 school contacts; (3) Obtain follow-up data for 192 students, 192 caregivers, and 192 school contacts; (4) Obtain 90% district participation rate; (5) Implement <i>FES</i> at 90% fidelity; (6) Complete all data analyses for primary and secondary research questions; (7) Complete cost analysis; (8) Disseminate locally, regionally, and nationally for expansion and replication; (9) Convert Check &amp; Connect and Homework Support FC training to web-based system; (10) Meet with 80% of participating districts to discuss mechanisms to support continued implementation of <i>FES</i> following study completion.</p> <p><b>Outcomes<sup>a</sup>:</b> (1) Improved student access to supports that increase school, academic, and homework engagement; (2) Improved family access to supports that promote home-school communication, self-efficacy to navigate schools, and knowledge and skills to promote child-school engagement; (3) Improved caregiver-child communication, relationships, and home placement stability; (4) Improved quality of school engagement with families involved in foster care, improved quality of the home-school relationship, and increased frequency of home-school communication; (5) Determined impact of <i>FES</i> six-months after program completion; (6) Determined program costs and cost benefits; (7) Completed web-based training system for scale-up and dissemination.</p>
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Note. <sup>a</sup>Measures linked to Phase C outcomes in Table 7.

**Method.** During project years 3-5 we will randomly assign a minimum of 288 students to *FES* or the ‘business-as-usual’ (BAU) control condition (see pilot study for recruitment and eligibility criteria). As students reunify throughout the year, a rolling admissions process will begin in August 2021 and continue through May 2023. Six-month follow-up data will be collected on the first 192 students receiving *FES* or BAU. Staff from [REDACTED] will contact eligible caregivers and students to describe the study and obtain informed consent and student assent (see Human Subjects). Based on prior projects, we anticipate consent/assent rates to range between 65-75% (Epstein & Trout, 2007; Trout & Epstein, 2012). Following consent/assent, families will be asked to complete baseline measures, and upon completion, will be assigned on a continuous

rotating schedule to treatment or control groups to ensure equal group size. Participants assigned to the control group will receive the traditional school and home-based supports. Participants assigned to *FES* will be randomly assigned to one of four FCs. Schools of consenting/assenting participants will be contacted for participation. Although students enroll in a variety of school districts across the Lincoln, Omaha, and surrounding areas, given the high participation rates in our previous studies at the district ( $n = 47$ ; 93%) and school ( $n = 136$ ; 100%) levels (public and private), we anticipate high rates of school participation in rural, suburban, and urban areas (see support letters in Appendix C).

Table 7: *Measures in Phase C*

<b>Construct</b>	<b>Measures</b>	<b>Respondent</b>	<b>Occasion</b>
Demographics	Family General Information Sheet (FGIS) <sup>1-6</sup>	C,S	Intake
	School Contact Demographic Survey (SCDS) <sup>1-6</sup>	SC	Intake
School Engagement	Academic Competence Evaluation Scale (ACES) <sup>1,5</sup>	S,SC	Intake/Post/Follow-up
	School Connectedness Survey (SCS) <sup>1,5</sup>	S	Intake/Post/Follow-up
	Parent-Teacher Relationship Scale (PTRS) <sup>2,4</sup>	C,SC	Intake/Post/Follow-up
	School Records (SR) <sup>1</sup>	SR	Quarterly/Follow-up
	School Placement Questionnaire (SPQ) <sup>1,2,4,5,6</sup>	C	Quarterly/Follow-up
	Parent & School Survey (PASS) <sup>2,4,5</sup>	C,SC	Intake/Post/Follow-up
	Educational Efficacy Scale (EES) <sup>2,4,5</sup>	C	Intake/Post/Follow-up
	Student Engagement Instrument <sup>1,2,4,5,6</sup>	S,SC	Intake/Post/Follow-up
Family Functioning	Family Empowerment Scale (FES) <sup>3,5</sup>	C	Intake/Post/Follow-up
	Caregiver Self-Efficacy Scale (CSE) <sup>2,5</sup>	C	Intake/Post/Follow-up
	Parent-Child Interaction Questionnaire (PCIQ) <sup>3,5</sup>	C,S	Intake/Post/Follow-up
	Placement Change Questionnaire (PCQ) <sup>3,4,6</sup>	C	Quarterly/Follow-up
	SFP Parenting Scale <sup>2,3,5</sup>	C	Intake/Post/Follow-up
Implementation/Adherence	Daily Report Logs (DRL) <sup>1-3,6</sup>	FC	Daily
	Check & Connect Monitoring Sheet (C&CMS) <sup>1</sup>	FC	Weekly
	Family-School Engagement Tracking Sheet (FSE) <sup>2</sup>	FC	Quarterly
	Homework Checklist (HC) <sup>2,3</sup>	FC	8-12 wks of consent/Quarterly
	Parent Training Self-Report & Observation Forms <sup>1-3</sup>	FC	8-12 wks of consent
	Program Fidelity Instrument (PFI) <sup>1,2</sup>	CS	Monthly
Social Validity	Service Satisfaction Scale (SSS) <sup>1-3</sup>	C,S,SC	Post
Services Used	Service Assessment for Children/Adolescents (SACA) <sup>1,2,5,6</sup>	C,S	Post/Follow-up
Cost Analysis	Agency service related costs <sup>6</sup>	CS	Project Completion

Note. CS = Clinical Supervisor, C = Caregiver, FC = Family Consultant, SR = School Records, S = Student, SC = School Contact. Superscripts 1-6 indicates measure alignment to Goal 3 outcomes identified in Table 6.

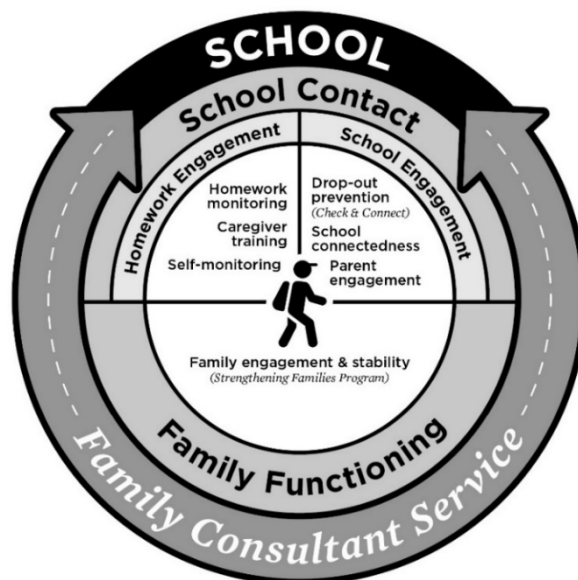
## B.2 Conceptual Framework

Figure 1 describes the conceptual framework underlying the *FES* program. Grounded in the developmental-ecological theory, an evolution of Bronfenbrenner's ecological systems

theory (Anderson & Mohr, 2003), *FES* considers individual and contextual factors that influence students and stakeholders involved during reunification, namely schools, caregivers, and service providers. This framework is not static, but represents key supports simultaneously integrated for all stakeholders while maintaining a student-centered focus.

The outer layer represents the notion of service provision that will be implemented by the FCs and schools, linking all aspects of *FES* to support educators, families, and students. The FC will support the school through direct interactions with school professionals conveying crucial elements for meeting the needs of students involved in foster care to promote school engagement and connectedness (e.g., continuous progress monitoring, connecting with caregivers, student school engagement). This information will assist the school contact to support the components embedded in the school and homework engagement domains. The core domains of school engagement, homework engagement, and family functioning are connected directly to the student providing a comprehensive, intensive, and explicit approach in which caregivers and students are simultaneously taught the skills and behaviors to promote short-and long-term student educational success and maintain placement stability.

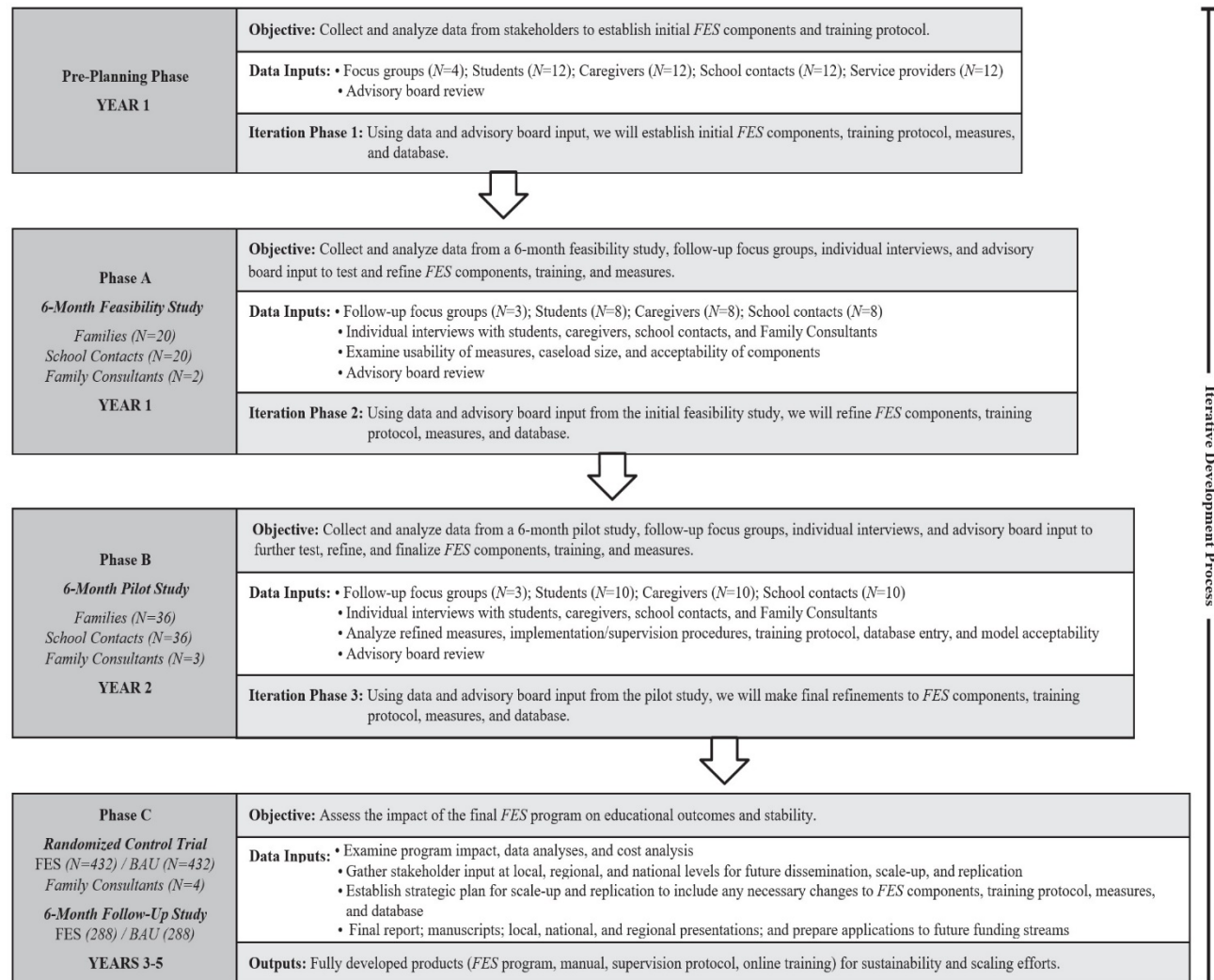
Figure 1. *FES Conceptual Framework*



## B.3 Performance Feedback and Continuous Improvement

*FES* will be developed, refined, and evaluated via a rigorous process employed successfully in previously funded DOE grants led by the PD and research team (Epstein & Trout, 2007; Trout & Epstein, 2012) and supported through an iterative approach used in education research (Shernoff et al., 2011). Stakeholders will provide several data inputs during each phase (e.g., focus groups, individual interviews, surveys, etc.; see Figure 2). Findings will be shared with the advisory board for additional input. Collectively, these data will inform necessary refinements to *FES* components, training protocols, measures, and databases. The changes will

Figure 2. *FES* Iterative Approach





be implemented during the preceding phase and will repeat using new data inputs to assess refinements. These iterative phases will result in a final *FES* program evaluated in Phase C.

## Section C – Adequacy of the Resources and Quality of the Management Plan

### C.1 Management Plan, Responsibilities, Timelines, and Milestones

Researchers from the Academy for Child and Family Well Being (ACFW) will oversee all aspects of the project management including IRB, budget, measure development and refinement, implementation fidelity, *FES* refinement, data collection, and dissemination. Staff from [REDACTED] will be involved in *FES* refinement, consenting/assenting of families, training, supervision, *FES* implementation, data completion, and dissemination. Statisticians, methodologists, and database developers at the University of Nebraska Medical Center (UNMC) will serve as the external evaluators and will assist with the randomization schema, outcome measure development and refinement, database development, data analysis, and dissemination (See Table 8).

Table 8. *Project Timeline, Milestones, and Responsible Person(s)*

Activity	Timeline	Responsible Person(s)	Agency Partners			
Pre-Planning Phase Milestones (Oct 2019-Dec 2019)			ACFW	[REDACTED]	UNMC	SDs
Prepare and submit IRB	10/19	PD, CO-PD, KP3, KP4, EE1	X	X	X	
Recruit schools for initial pilot	10/19	CO-PD	X			X
Pilot study measure development/refinement <sup>a</sup>	10/19-12/19	PD, CO-PD, KP1, KP2, EE3	X	X	X	
Train Clinical Supervisor	11/19	PD, CO-PD, KP5	X	X		
Database development	11/19-12/19	KP2, KP3, EE1, KP7	X		X	
E-learning System Development (first three modules) <sup>a</sup>	10/19-12//19	PD, CO-PD, KP4, KP6	X	X		
Focus group participant recruitment (N=48) <sup>a</sup>	10/19-11/19	CO-PD, KP3, KP4, KP5	X	X		X
Train data collectors on NGT focus group approach <sup>a</sup>	11/19	PD, CO-PD, EE1	X		X	
Conduct NGT focus groups <sup>a</sup>	11/19	PD, CO-PD, KP3, EE1	X		X	
Analyze data <sup>a</sup>	11/19	EE1, EE3			X	
Expert advisory board meeting <sup>a</sup>	11/19	PD, CO-PD, KP4, KP5	X	X		
Model/FC training modifications <sup>a</sup>	12/19	PD, CO-PD, KP4	X	X		
Hire and train FCs (N=2)	12/19	PD, CO-PD, KP4, KP5	X	X		
EIR post-award meeting	TBD	PD, KP4, EE1	X			
Weekly planning meetings <sup>a</sup>	10/19-12/19	PD, CO-PD, KP4, KP5, FC	X	X		
Phase A: Initial 6-month Feasibility Study Milestones (Dec 2019-Aug 2020)			ACFW	[REDACTED]	UNMC	SDs
Participant identification/consent (N=20)	1/20	KP3, KP4, KP5, FC	X	X		

Identify and secure school contacts	1/20	KP3, FC	X	X		X
Implement intervention	1/20-6/20	FC, KP5		X		X
Data collection/entry training	1/20-6/20	PD, CO-PD, KP3, EE1, DC	X		X	
Collect adherence/fidelity data <sup>a</sup>	1/20-6/20	KP1, FC	X	X		
Complete weekly implementation journals <sup>a</sup>	1/20-6/20	KP5, FC		X		X
Collect social validity data <sup>a</sup>	6/20	KP2, EE1	X		X	X
Prepare data files/clean data <sup>a</sup>	7/20	KP2, KP3, EE1	X		X	
Analyze all data <sup>a</sup>	7/20	EE1			X	
Follow-up focus groups/interviews (N=24) <sup>a</sup>	7/20	PD, CO-PD, KP3, KP4, EE1	X	X	X	
Analyze data <sup>a</sup>	7/20	EE1			X	
Expert advisory board meeting <sup>a</sup>	7/20	PD, CO-PD, KP4, KP5	X	X		
Model/FC training refinement <sup>a</sup>	8/20	PD, CO-PD, KP4, KP5	X	X		
Measure development and refinement <sup>a</sup>	8/20	CO-PD, KP1, KP2, KP4, EE3	X	X	X	
Database refinement <sup>a</sup>	7/20-8/20	KP2, KP3, EE1, KP7	X		X	
E-learning System refinement <sup>a</sup>	7/20-8/20	KP4, KP6		X		
School recruitment/IRB for pilot study	7/20-8/20	CO-PD	X			X
Hire and train FCs (N=3)	8/20	PD, CO-PD, KP4, KP5	X	X		
Annual PD meeting	TBD	PD, KP4, EE1	X	X	X	
Annual report	TBD	PD, CO-PD, KP2, KP3, EE1	X	X	X	
Weekly planning meetings <sup>a</sup>	1/20-12/20	PD, CO-PD, KP4, KP5, FC	X	X		
<b>Phase B: Iterative 6-Month Pilot Study Milestones (Sept 2020-May 2021)</b>			<i>ACFW</i>		<i>UNMC</i>	<i>SDs</i>
Renew IRB	9/20	PD, CO-PD, KP3, KP4, EE1	X	X	X	
Participant identification/consent (N=36)	8/20-9/20	KP3, KP4, KP5, FC	X	X		
Identify and secure school contacts	8/20-9/20	KP3, FC	X	X		X
Implement intervention	9/20-2/21	KP5, FC		X		X
Data collection/entry training	8/20	PD, CO-PD, KP3, EE1	X		X	
Collect adherence/fidelity data <sup>a</sup>	9/20-2/21	KP1, FC, DC	X	X		
Complete weekly implementation journals <sup>a</sup>	9/20-2/21	FC, KP5		X		X
Collect social validity data <sup>a</sup>	2/21	KP2, EE1	X	X	X	X
Prepare data files/clean data <sup>a</sup>	2/21-3/21	KP2, KP3, EE1	X		X	
Follow-up focus groups/interviews (N=30) <sup>a</sup>	3/21	PD, CO-PD, KP3, KP4, EE1	X	X	X	
Analyze all data <sup>a</sup>	3/21	EE1, EE3			X	
Expert advisory board meeting <sup>a</sup>	4/21	PD, CO-PD, KP4, KP5	X	X		
Model/FC training refinement <sup>a</sup>	4/21-6/21	PD, CO-PD, KP4, KP5	X	X		
Measure refinement <sup>a</sup>	4/21-6/21	CO-PD, KP1, KP2, EE3	X		X	
Database refinement <sup>a</sup>	4/21-/21	KP2, KP3, EE1, KP7	X		X	
E-learning System refinement <sup>a</sup>	4/21-6/21	KP4, KP6		X		
Hire and train FCs (N=4)	5/21	PD, CO-PD, KP4, KP5	X	X		
Annual PD meeting	TBD	PD, KP4, KP5, EE1	X	X	X	
Annual report	TBD	PD, CO-PD, KP2, KP4, EE1	X	X	X	
Weekly planning meetings <sup>a</sup>	9/20-5/21	PD, CO-PD, KP4, KP5, FC	X	X		
<b>Phase C: Evaluate Impact on Educational and Placement Stability through a RCT and 6-Month Follow-up Study (Aug 2021-Sept 2024)</b>			<i>ACFW</i>		<i>UNMC</i>	<i>SDs</i>
School recruitment/district IRB	6/21-6/23	CO-PD	X			X
Renew University IRB	Annually	PD, CO-PD, KP3, KP4, EE1	X	X	X	
Participant identification/consent (N=288)	6/21-23	KP3, KP4, KP5, FC	X	X		
Identify and secure school contacts	6/21-23	KP3, FC	X	X		X
Participant randomization	6/21-23	EE1			X	
Implement intervention	6/21-5/24	FC, KP5		X		X
Data collection/entry training	6/21-5/24	PD, CO-PD, KP3, EE1	X		X	
Collect all data (outcomes, adherence, fidelity)	6/21-5/24	KP2, KP3, FC, EE1, FC	X	X	X	X
Adherence observations	6/21-5/24	KP3, DC	X	X		

Collect costs data	6/21-5/24	CO-PD, KP4, EE3	X	X	X	
Prepare data files/clean data	6/24	KP2, KP3	X			
Analyze all data	6/24-7/24	EE1, HW, EE2			X	
Annual PD meeting	TBD	PD, KP4, KP5, EE1	X	X	X	
Weekly planning meetings <sup>a</sup>	6/21-5/24	PD, CO-PD, KP4, KP5	X	X		
Disseminate findings	7/21-9/24	PD, CO-PD, EE1, EE3	X		X	
Annual/final reports	TBD	PD, CO-PD, KP2, KP3, KP4, EE1, HW, EE2, EE3	X	X	X	
District and agency meetings for sustainability	6/24-9/24	PD, CO-PD, KP4, KP5	X	X		

Note. PD = Project Director; Co-PD = Co-Project Director; KP = Key Personnel; EE = External Evaluator; FC = Family Consultants; DC = Data Collectors (UNL & [REDACTED]); SDs = school districts; ACWB project personnel include: [REDACTED]

## C.2 Personnel

*FES* is an interdisciplinary collaboration between professionals in education, foster care, research, and evaluation. Table 9 describes the roles of key personnel at each entity of this project, including relevant training and experience. Information regarding time allocation, key personnel education, and expertise is located in Appendix B.

Table 9. *FES Key Personnel, Training, and Experience*

<b>FES Key Personnel</b>	<b>Relevant Experience &amp; Training</b>
Dr. Alex Trout (PD), <i>Co-Director &amp; Research Professor, ACFW</i>	Dr. Trout has nearly 20 years of experience working with students in out-of-home care, developing and evaluating educational interventions, and securing \$10 million dollars in federal funding. Dr. Trout is the lead developer of the original OTWH and is the PI for the development and evaluation grants.
Dr. Jacqueline D'Angelo (Co-PD), <i>Assistant Research Professor, ACFW</i>	Dr. D'Angelo has 15 years of experience working with children and families who are at-risk, including 8 years as an educator for those in out-of-home care. She has served as key personnel on several federally funded projects including the development and evaluation of the original OTWH program.
Dr. Kristin Duppong Hurley (KP1), <i>Co-Director &amp; Research Professor, ACFW</i>	Dr. Duppong Hurley has over 20 years of experience developing and evaluating programs for students and families at-risk including serving as the PI for federally funded projects from IES and NIMH and numerous evaluation contracts for school and community-based educational programs.
Dr. Matthew Lambert (KP2), <i>Associate Professor of Special Education</i>	Dr. Lambert has nearly a decade of experience serving as the lead methodologist on 6 federally funded projects including the development and efficacy studies of OTWH.
Dr. Lori Synhorst (KP3), <i>Data Center Director, ACFW</i>	Dr. Synhorst has 30 years of experience in education related settings including 7 years of teaching, 5 years as an administrator, and 18 years leading the ACFW data processes and procedures. This includes oversight on several federally funded projects and community-based contracts including OTWH.

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
Dr. Kendra Schmid (EE1), <i>UNMC Campus Director of Assessment; Assistant Dean, Graduate Studies</i>	Dr. Schmid has over a decade of experience providing evaluation and statistical support across 35 funded projects, including serving as the PI on 11. Her work has been funded through NIH, NSF, DOD, DOE, and DHHS.
Ms. Valerie Shostrom (EE2), <i>Statistician, UNMC College of Public Health</i>	Ms. Shostrom has 23 years of experience in statistical design and analysis, including statistical applications using a variety of software (e.g., SAS, SPSS, S-PLUS, UNIX, VAX, and VMS).
Dr. Hongmei Wang (EE3), <i>Associate Professor, Department of Health Services Research and Administration UNMC</i>	Dr. Wang has over 13 years of experience serving as an evaluator, including expertise on cost analysis. She served as the cost analysis expert for the OTWH project.

### C.3 Mechanisms to Support Sustainability

Efforts for sustainability of *FES* for broad-scale school and agency implementation will include a range of local, regional, and national efforts. First, sustainability of *FES* was integrated as part of the iterative development framework through a continuous improvement process and was strategic to establish fully developed products (e.g., *FES* program, manual, supervision protocol, online training) ready for scaling efforts. We anticipate that at completion of this project, *FES* will provide a promising and feasible option for schools and agencies to implement to improve school engagement, educational outcomes, prevent systems reentry, and promote school and home stability for students involved in foster care.

Second, [REDACTED]

[REDACTED] In addition to providing core services, [REDACTED] has established an extensive training program to assist the development of other

organizations in implementing [REDACTED]. Upon project completion, [REDACTED] intends to fully integrate *FES* into their service and training options (see Appendix C) to implement regionally and nationally across public, charter, and private schools. Recent federal legislation (i.e., Family First Prevention Services Act, 2018) promotes sustainability of programming such as *FES* by emphasizing the need to prevent of reentry into foster care. This legislation encourages child and family stability by allowing federal reimbursement to agencies who implement promising, well-supported practices as supported by inclusion on peer-reviewed, evidence-based lists. As *FES* is a modification of OTWH, which is already listed as promising on the CEBC, we will use the same approach to prepare for future clearinghouse applications. This includes following IES What Works Clearinghouse research standards and submitting research findings to peer-reviewed journals across relevant disciplines. We will also share our findings with professionals in education and child welfare through white papers, practitioner journals and magazines, and local and national presentations.

Finally, to establish additional efficacy of *FES* with different samples and geographical regions (necessary to achieve clearinghouse status) and to promote continued sustainability, we will pursue replication research funding through various sources such as educational federal agencies (e.g., IES, OSEP, EIR Mid-Phase), child welfare agencies (e.g., Children's Bureau, DHHS), and health related entities focused on aspects related to this population (e.g., NIH, NIMH, NIDLR, NICHD). We will also seek to secure funding through education focused foundations to promote sustainability and continued implementation through entities such as the Sherwood, Annie E. Casey, Robert Wood Johnson, and Doris Duke Foundations.

## **SECTION D. EVALUATION PLAN**

### **D.1 Methods of Evaluation will Produce Evidence to Meet the WWC Evidence Standards**

Using methods that would meet the WWC standards, in years 3-5, we will use a RCT to evaluate the effects of *FES* on student and caregiver outcomes. The RCT will address the following research questions at post-test and follow-up observations: (1) What is the impact of *FES* on students' rates of school and home placement, academic and behavioral functioning, school connectedness, school success (e.g., grades, credits earned), and school risk indicators (e.g., suspensions, discipline referrals)? (2) What is the impact on caregiver self-efficacy and family empowerment in their child's educational programming? (3) What is the implementation fidelity of the intervention? (4) What is the association between level of fidelity of implementation, process factors, and *FES* program outcomes? (5) What is the cost effectiveness of *FES*?

Table 10 lists the WWC standards as well as the proposed RCT parameters and the parameters from a previously conducted RCT (Trout et al., 2013). The previously conducted RCT parameters are presented to provide empirical evidence to support the assumptions used to plan the proposed study (e.g., attrition rates, differential attrition rates, effect sizes).

**Hierarchical, correlated data structure.** While random assignment will take place at the individual level, students assigned to the *FES* condition will be randomly assigned to an interventionist, forming intervention clusters (ICs), which introduces dependence amongst participants in the same intervention cluster. Because families assigned to the BAU condition are not nested, this represents a partially-nested design. The analysis will therefore nest students within ICs using hierarchical models (Lohr et al., 2014).

**Analysis plan.** The summative evaluation will focus on estimating the impact of *FES* on post-test and follow-up outcomes using an Intention-to-Treat (ITT) analysis framework. The external evaluators (UNMC) will evaluate the statistical significance and magnitude (i.e., effect

size) of the impact estimates using the modeling approach described below.

Table 10. *WWC Design Standards for Efficacy Trials*

	<b>WWC Standard</b>	<b>Proposed EIR Study</b>	<b>Previous DOE Study<sup>1</sup></b>
<b>Design</b>	RCT; Quasi-Experimental	RCT	RCT
<b>Sample Size</b>	No Specific Requirement; Sufficient Statistical Power	$N = 288$ students, $N = 288$ caregivers, and $N = 288$ school contacts	$N = 88$
<b>Randomization</b>	Participants are randomly assigned at the individual level to either the experimental or comparison conditions	Individual-Level Randomization; Balanced; Blocked by school (blocks of 2, 4, or 6)	Individual-Level Randomization
<b>Attrition</b>	Overall and differential attrition is low, and represents acceptable levels of potential bias	To assess the potential impact of differential attrition, we will examine for differences on the pre-test measures between students with complete outcome data and students with missing outcome data. In cases where missing data imputation is warranted, multiple imputation methods (Rubin, 1987) will be used to impute missing data separately for participants in each condition as per the WWC standards.	Low Levels of Overall Attrition (6.9%) and Differential Attrition ( $\Delta 3.7$ percentage points); Acceptable Potential Bias
<b>Baseline Equivalence</b>	Baseline equivalence between conditions can be established; Less than 0.25 standard deviation difference between conditions	Students will be randomly assigned to condition which should yield balanced groups prior to the intervention. However, we will assess the balance of groups by collecting pre-test measures for each student prior to random assignment and comparing student demographics between the <i>FES</i> and control conditions. Conclusions regarding equivalence will be based on the standardized mean difference between conditions as suggested by WWC (2014). Measures with a standardized mean difference greater than $ 0.25 $ may also be included as covariates when modeling <i>FES</i> effects.	Baseline equivalence was established for the analytic sample for all, but one subscale score of the PARCA which demonstrated a standardized group mean difference of $ 0.251 $

*Note.* <sup>1</sup>Approach used in the original OTWH RCT Grant CFDA #R324B070034; Trout et al. 2013. Data from the second DOE RCT are in final collection stages and thus are not presented in this table.

Specifically, the PROC MIXED procedure in SAS (SAS Institute Inc., 2008) will be used to fit hierarchical linear models (HLMs). Because participants randomly assigned to *FES* are nested within intervention clusters, clusters are included as level-2 units. These models will be used to compare post-test scores of participants in the two conditions while accounting for multiple sources of correlation and adjusting for baseline differences. We will use a fixed intercept, random slope hierarchical linear model. Hedges's  $g$  (for continuous outcomes) or Cox  $d$  (for binary outcomes) will be used to calculate the effect size, indicating the intervention effect after accounting for differences in variability. Hedges's  $g$  will be reported as a covariate-adjusted

mean difference divided by unadjusted pooled within-group standard deviation (WWC, 2014).

UNMC will evaluate how effect sizes are moderated by participant characteristics (e.g., gender, length of stay in care) on post-test and follow-up outcomes. The regression models described above will be expanded to include the moderator as a covariate as well as an interaction with the treatment indicator variable. Mediation analyses will be performed to examine if short-term student (e.g., school success, school risks) and caregiver outcomes (e.g., self-efficacy, empowerment) mediate long-term student outcomes (e.g., stability). Mediation processes will be evaluated using structural equation modeling techniques.

Moderation and mediation testing, how implementation fidelity and process factors (e.g., level of implementation) are associated with short and long-term student and caregiver outcomes will be evaluated. To this end, UNMC will use fully-nested HLMs to assess whether outcomes for students in the *FES* condition vary across different levels of each of the process factors described in Appendices G.1 and I.2.

We will collect data to determine the costs and potential cost-benefits of *FES* in relation to its positive effect on school and home stability. At study completion, UNMC will conduct a Cost Effectiveness Analysis (Drummond et al., 2005) comparing students in *FES* to students in the BAU group. Costs will be calculated using agency provided personnel costs for time spent on program implementation, training, supervising, and any other costs related to service provision. In addition, local service costs related to additional placements in foster care, residential care, or detention/jail will be used to calculate potential cost savings related to the reduced need for out-of-home placements for students receiving *FES*.

**Statistical Power and Sample Size Justification.** Sample size considerations were based on the primary impact analyses. The sampling frame is limited by the number of available



FCs and we expect to recruit a minimum of 288 students (144 per condition) over the three-year efficacy trial. We conservatively expect that approximately 10% will be lost to attrition at post-test. Only participants in Years 3 and 4 will be included in the follow-up analysis, and we anticipate an additional 5% will be lost to attrition at follow-up. Based on expected attrition rates, the analytic sample will include 258 participants at post-test and 164 participants at follow-up. For all outcome measures, alpha was set to .05, power to .80, the ICC for the *FES* participants set to .01, IC size set to 32 (for post-test) or 21 (for follow-up), and for continuous outcome measures, we set the  $R^2$  explained by covariates (e.g., pre-test measures) at .40.

Based on these assumptions, the proposed study is powered for a moderately-sized minimum detectable effect size (MDES) of 0.292 between the *FES* program and BAU condition for continuous outcomes and an MDES of 0.17 (OR = 2.67) for binary outcomes at post-test. MDES for follow-up outcome analyses is 0.356 for continuous outcomes and 0.22 for binary outcomes (OR = 3.33). Results from the previous RCT demonstrated intervention impacts larger than the proposed MDESs for the primary binary outcomes (OR > 3.33; Trout et al., 2013).

## **D.2 Evaluation will Provide Guidance about Effective Strategies Suitable for Replication**

The evaluation will provide support for replication in other settings by using multiple modalities across project phases to demonstrate implementation fidelity, feasibility, social validity, program efficacy, and cost effectiveness. Phase A will consist of a series of qualitative studies and a small feasibility study of *FES* with the goal of refining program components, developing measures of implementation fidelity, refining outcome measures, evaluating social validity, and developing data collection and management strategies. Phase B will also include a series of qualitative studies and a larger pilot study of the refined *FES* program with the goal of finalizing the refined *FES* components, tracking implementation fidelity and FC knowledge of

the *FES* components, refining training approaches, evaluating social validity, and finalizing outcome measures. Phase C will consist of a large-scale RCT of the fully-developed program to provide data on the efficacy of *FES* related to short-and long-term student and caregiver outcomes, as well as cost effectiveness data to assess the feasibility of replicating *FES* in other settings. Taken together, these strategies will support the replication of *FES* in school districts across the nation if the results of the RCT study confirm program efficacy and sustainability.

### **D.3 Methods of Evaluation will Provide Valid and Reliable Performance Data on Outcomes**

The evaluation will consist of three phases: (1) a feasibility study and iterative refinement of *FES* components; (2) a formative evaluation of implementation feasibility, implementation fidelity, and social validity of *FES* in a pilot study; and (3) a summative RCT evaluation to demonstrate *FES* efficacy. The evaluation plan combines qualitative and quantitative data across the phases to assess program feasibility, fidelity, social validity, efficacy, and cost effectiveness. Qualitative data related to program refinement, implementation feasibility and fidelity, as well as social validity will include individual and focus group interviews with key stakeholders. The analysis of qualitative data will be guided by NGT approaches and thematic analysis.

Quantitative data will include measures of implementation fidelity, FC knowledge of *FES* program components, and the dependent variables for the RCT study. Dependent variables for the RCT will be collected at post-test and 6-month follow-up, allowing inferences to be made about the short-term and long-term efficacy of *FES*. Several dependent variables will be collected across school engagement, family functioning, service use, and *FES* implementation and adherence (see Appendix I.2). Quantitative data will be analyzed using descriptive statistics, inferential statistics (see above), and effect sizes following WWC standards and suggestions.

### **D.4 Key Components, Mediators, and Outcomes**

The *FES* Logic Model (see Appendix G.1) describes the key program components, potential mediators, and long-term outcomes and explicates the meaningful connections between the program components and mediators that ultimately lead to positive outcomes for students and their families. Through each phase, we will use data collection and analytic approaches that allow us to assess and evaluate individual and amalgamated program components and the connections between *FES* components and student outcomes. The project will culminate with a high quality RCT that meets the WWC standards of evidence without reservation.

The efficacy of *FES* on student and caregiver outcomes and the evaluation of mediating and moderating variables will be examined in the RCT using formative and summative assessments. For primary impact analyses, impact at post-test and follow-up will be evaluated to allow for inferences about short-and long-term effects on student and caregiver outcomes. For mediation analyses, we hypothesize that short-term student and caregiver outcomes may mediate long-term student outcomes. SEM approaches will be used to evaluate these relations. For moderation analyses, UNMC will evaluate if effect sizes are influenced by participant characteristics on post-test and follow-up outcomes. UNMC will also evaluate whether students experiencing more positive process factors demonstrate greater placement and school stability and better academic outcomes at post-test and follow-up.

Students involved in foster care have poor educational outcomes (Pecora, 2012). *FES* seeks to change this trajectory by providing students, families, and schools with an approach grounded in evidence to promote successful educational outcomes. Through collaborative efforts among educators, service providers, researchers, and evaluators, we have designed a series of rigorous studies to illuminate the mechanisms through which *FES* can empower reunifying students, support educators, encourage families, and promote positive and lasting student educational success.