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KEY ISSUES AND STRATEGIES FOR RECRUITMENT AND IMPLEMENTATION IN LARGE-SCALE RANDOMIZED CONTROLLED TRIAL STUDIES IN AFTERSCHOOL SETTINGS

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Introduction

Under the larger scope of the National Partnership for Quality Afterschool Learning, SEDL funded three awardees to carry out large-scale randomized controlled trials (RCT) assessing the efficacy of promising literacy curricula in afterschool settings on student academic achievement. SEDL provided analytic and technical support to the RCT studies through its Afterschool Research Consortium (ARC), composed of SEDL researchers, key staff from each research project, and experts in the field[1]. The ARC convened at least twice a year to discuss accomplishments, challenges, and solutions to the implementation of the funded RCT study designs. The ARC has been committed to the dissemination of information to the field about the effective use of rigorous experimental research approaches in applied afterschool settings. This research brief is the second in a series of papers intended to address some of the key challenges faced by awardees in order to provide insights to the research and practice community. The information for this brief includes lessons extracted from ARC discussions and activities, guidance provided by ARC experts, site visits and interviews conducted by SEDL, and the findings described in the larger literature of afterschool research.

This brief is organized according to the primary challenges undertaken by the ARC during the early funding and implementation period, which involved two interrelated topics: difficulties with the recruitment of sites and challenges with implementation of curricula that had been adapted to fit the afterschool setting. These issues are part of a larger set of often-uncovered mechanisms or "black box" events occurring during implementation that can insidiously contribute to dampened treatment effects in these applied studies. This discussion is aimed at contributing practical information about conducting RCT studies in applied settings, suggesting strategies that might help circumvent a few of the multiple ways in which study effects are threatened, and broadening such discussions in the field.

Brief Overview of the Key Issues Related to Recruitment and Implementation

The use of RCT designs to evaluate the impact of academic curricula in applied afterschool settings is a relatively new and demanding approach in program evaluation research. As more RCT studies are undertaken, the little known practical aspects of conducting this type of research are emerging; the challenges that must be overcome, the solutions to common problems associated with RCT studies, and the specific elements of afterschool settings that influence research designs. We begin by briefly describing study elements that are salient for this research brief on recruitment and implementation issues and strategies that emerged over the two-year course of the studies.[2]

In the spring of 2006, SEDL issued a request for proposals for the rigorous evaluation of the efficacy and impact of promising afterschool interventions using RCT methodology. Three research projects were funded to test promising reading interventions and their impact on student achievement in contrast to the programs or practices that

[1] Fred Doolittle, MDRC; Elizabeth Reisner, Policy Studies Associates, Inc.; and Peter Witt, Texas A & M University participated in the ARC as Technical Working Group members.

[2] Afterschool Research Brief #1 provides detailed information about the study criteria, the selection process, and a discussion of the state of the field of afterschool research using RCT designs.

were operating normally in the afterschool programs. All three projects were testing reading interventions, but the early recruitment and implementation phases for each study were influenced by "behind the scenes" issues that were tied to unique and fundamental elements of the individual study designs.

For example, in the study conducted by the Success for All (SFA) Foundation, the *Adventure Island* curriculum, an afterschool reading program based on the SFA reading model (Slavin & Madden, 2001) with a focus on the components that are identified as common deficiencies among struggling readers, was proposed with a student population of English language learners (ELLs) in grades 2–5[3]. The inclusion of ELL students in the study design raised insurmountable obstacles during first-year attempts at recruitment of afterschool sites. During the extended recruitment period, a refinement of strategies was developed based on each attempt and the sample was drawn successfully from four majority-Hispanic and one majority-African-American schools in Texas. This challenge transformed the unexpected difficulties into a platform for developing a set of recruitment strategies for targeting special populations. The strategies used to overcome these challenges will be discussed in greater detail in the recruitment section.

In the second study designed by The Center for Evaluation and Education Policy (CEEP) at Indiana University, the impact of previously established 21st Century Community Learning Center (21st CCLC) programs across Kentucky were to be compared with similar 21st CCLC programs that included the *Voyager Passport* Reading program (Passport) in grades 2–5. This study's early challenges with site recruitment were hinged on the design element of recruiting programs across an entire state. Although a sufficient number of counties across the state had agreed to participate initially, at the start of the school year afterschool programs encountered unexpected insufficient staffing resources, scheduling problems, and related difficulties with implementing the RCT design. The attempt to recruit sites across an entire state brought about a unique set of issues; while most of the issues that interfered with successful recruitment were related to insufficient resources, many of them included challenges related to geographic characteristics such as remoteness of rural settings. A fuller discussion of these challenges is presented in later sections.

The third study, undertaken by MPR Associates, Inc., was designed to compare Scholastic's READ 180 program with standard afterschool services in Brockton (MA) public schools. Prior to SEDL funding, the William T. Grant Foundation had funded the first year of a study to examine the impact of READ 180 in afterschool classrooms in three schools in Brockton, which revealed positive effects on oral reading fluency for some students in the treatment group. SEDL funded a replication study using four "new" schools in the same district that had never used the READ 180 program. The study drew upon experience in the previous year to recruit approximately 300 students in grades 4, 5, and 6. The MPR study also benefited from its established connections with the developer, the district, and its "pilot" year findings to successfully overcome a number of typical issues that occurred during the SEDL study.

The specific issues that influenced recruitment were the leading indicators of how well the implementation phase would proceed. The studies' start-up activities were influenced by whether key personnel in the afterschool sites had accurately assessed and were able to meet the conditions needed to implement the interventions. In several cases there were instrumental advocates for the projects that went above and beyond what is typically required by their roles to find resources, talk with school administrators, and personally communicate with study staff about the progress of the studies. During the two-year funding period, the ARC provided a collaborative setting in which to troubleshoot a number of substantive issues, and it is from those discussions, reports provided by the project staff, and site visits and interviews conducted by SEDL that the information in this brief was obtained.

The ARC produced this series of briefs as an outlet to document the common issues that affected the success of rigorous evaluations in applied settings and to share strategies that worked in particular settings and conditions. All of the issues discussed in this brief are specific to large-scale efficacy trials in afterschool programs, however most of them generalize to issues that arise commonly in conducting RCT studies in

[3] At the start-up of SEDL funding, SFA's *Adventure Island* was being evaluated in an afterschool study conducted by MDRC, without this sample specification.

other areas. Along with each set of issues we outline a number of strategies untaken by these projects that were either successful or provide knowledge gained through attempts to overcome problems.

Recruitment of Afterschool Sites into Large-Scale RCTs

Key Issues

The following issues arose during first-year attempts to recruit afterschool sites. Of the problems encountered across the projects, the three issues described below were the most common and notable.

Geographic dispersion of potential sites. One of the defining features of the future success with recruitment was the geographic dispersion of potential sites. For example, in the summer and fall of 2006, SFA staff contacted district administrators to identify sites that would benefit from a study serving ELL students. After following up on leads in California, New York, Maryland, and Texas (Dallas and Fort Worth), issues that arose eliminated schools from this potential list. As it turned out, if more schools from the initial pool had signed letters, another challenge to final recruitment activities would have been the geographic complication that only 3 of the 14 schools in the initial pool were in the same district. The other schools were in separate cities, which would have required a substantial travel budget and significant coordinator time given the distance between sites and the related training, scheduling, and travel costs for trainers and testers. Travel to the sites at the time of recruitment may have improved chances that schools would have signed agreements, but travel to each site to explain the study and meet with critical support contacts would have been cost-prohibitive even before the study began.

Knowledge of district policies governing special programs. District policies regulating special programs are especially influential in the planning for recruitment of special student populations. Given that SFA's target population was ELL students, their successful recruitment was influenced by district level policies governing ELL program types, such as bilingual and transitional. As is typical in recruitment protocol, research staff followed up with administrators and in some cases conducted district meetings for representatives from interested schools to ensure that they understood the conditions of the study. Two large districts in Texas agreed to participate during the summer of 2006, but later that fall, SFA received a letter withdrawing them from the study because district administrators of the bilingual education programs discovered that *Adventure Island* did not include any Spanish instruction, a key requirement of their bilingual education approach. Although district approval had been received, the bilingual education administrator had final authority and pulled the agreements.

Afterschool program budget constraints. Another key issue that impacted study recruitment was limited school resources (e.g., transportation and staff). A large district in Maryland did not participate due to lack of funds for staffing and operating afterschool programming to provide *Adventure Island* for four days per week. Also, transportation would have been a particular financial and strategic challenge. Unanticipated resource shortfalls for afterschool programs impacted CEEP's study recruitment activities. At the end of the recruitment period, the overall sample size for the study was significantly lower than project staff had initially projected for a number of reasons. Overall, participation rates in the afterschool programs were significantly lower than anticipated, in some cases due to funding issues (e.g., insufficient funds to provide transportation). Given that Kentucky is characterized by high rurality, transportation costs weighed heavily in the sites' ability to operate their programs. Additionally, many schools were insufficiently staffed to accommodate the student/teacher ratio required by the afterschool intervention program. Eight counties withdrew from the study due to insufficient staff and also because of their inability to devote 45 minutes to one hour of the afterschool program session to the *Voyager Passport* program. For studies of this kind, resources must be in place and remain consistent for the duration of the study, conditions that many under-funded afterschool programs cannot meet.

Key Strategies

Number and location of sites aligned to funding levels. The recruitment of afterschool program sites within close proximity of one another mitigated several demands on resources. In the SFA study, connections through professional networks identified an associate superintendent who oversaw special programs in her district and was an advocate of research. Aside from one large urban school site outside of this district, all program sites were under

the purview of this supportive district administrator, and within close driving distance from one another. These two factors, administrator advocacy and the majority of sites within one district and in close proximity to one another, proved to be the critical strategy for recruitment success. MPR's program sites also were located within close proximity in one school district, and their first year study funded from a source other than SEDL had taken place in the same district. Relationships MPR built with the school district in the pilot year were drawn upon to recruit new schools for the SEDL study. These studies were efficacy field trials that typically require that sites be recruited from one to two districts rather than statewide, and further, the amount of funding for these studies was modest. The number and location of sites, when closely aligned to funding levels, improves the likelihood that sites can be recruited efficiently and effectively (i.e., reasonable investment of resources to explain the study in person, answer questions, and get initial "buy-in" from the administrators), and may increase the chance that district level administrators are invested in the overall success of the project.

Use of "insider" contact information and support. Background research should be conducted, including the use of "insider" contact information and support, to identify special program intervention specifications and tie them to any district policy implications. SFA staff found an advocate for their study through contacts from colleagues to determine a target sample of districts that met study criteria, including district policy information that improved the fit between the intervention specifications and the sites' willingness to participate. Through this process, SFA successfully recruited schools with suitable afterschool programs in two large Texas districts as a result of joint efforts between SFA, SEDL, and the county-level administrator of special programs. For studies requiring special student samples that invoke district policies aimed directly at them, the first successful recruitment strategy included forming an allegiance with a district-level contact with significant administrator knowledge and power to assist with recruitment. In this case, one major district contact helped with the recruitment of the final sample of schools. This contact was also instrumental in the maintenance of the study sample during the implementation phase. This strategy worked for a small study, however, research on district policies that govern special elements of the intervention and study design should be undertaken before recruitment activities begin.

Individual meetings with interested schools. Recruitment efforts should involve individual visits with each school to provide important background information about support requirements essential for or to improve program implementation. Feasibility visits would allow the evaluation researchers to build rapport, verify information about the core elements of the program, explain research requirements of the project (with a strong emphasis on the need to implement the program with fidelity) to school and program administrators, and to address administrators' concerns about the study design and resources to meet study specifications. Geographic proximity between the schools improved the financial and practical feasibility of these visits. Information about the timing of program implementation matched to afterschool program startup was critical to successful recruitment, and pertinent details regarding the overall operation of the programs was gained in individual meetings. The visits made during recruitment provided critical information about the types of training and supports that would facilitate implementation of the afterschool intervention, described more fully below. In general, creative solutions to unanticipated budget reductions were more likely to be successful when both the project teams and the district administrators had streamlined communication about the study and a sufficient amount of "buy-in" and rapport had been developed. Realistically, however, potential study sites that would struggle over the course of the study period to find appropriate resource levels needed for program implementation are better left off the recruitment list.

Given the importance of successful site recruitment to the long-term success of RCT designs, budgeting for feasibility visits as well as adequate advance time to recruit sites is recommended and considered a high-priority investment in the study. Well-implemented studies begin with successful recruitment, which includes choosing sites that can attain and maintain the proper level of resources to implement the studies. In the end, successful recruitment of sites to conduct RCT studies is key to maintaining adequate samples to detect treatment effects by the end of the study. Further, enrolling the "best" pool of study participants, meaning those whose characteristics fit the intended population for the intervention (e.g., struggling readers, ELL students), will tie back to the program components

theoretically asserted to produce the outcome effects, which will ultimately address developers' concerns about whether the intervention received the best opportunity to produce intended effects on student outcomes.

Early Implementation of Large-Scale RCT Studies in Afterschool Settings

Key Issues

The following issues were identified as key factors that influenced the implementation of the reading interventions. The discussion of implementation developed here is in general reference to the installation of the structured literacy programs in applied settings (Lipsey & Cordray, 2000). Implementation of the interventions was to be approached as a shared responsibility between evaluators and developers, with significant developer support considered part of the design for these efficacy trials.

Degree to which key personnel were fully informed. Identifying and contacting all decision-makers who were empowered to finalize and uphold the agreement to participate in the study was a key strategy during recruitment. To the extent possible, and at every level of the sites' infrastructure, key personnel should be made aware of the requirements for successful program implementation and the overall study design. Key personnel include district administrators, school administrators, directors of afterschool programs, and all program staff that may have contact with study staff. In most cases, supportive site contacts were identified successfully, and those initial contacts were instrumental throughout the implementation phase.

Even in cases where significant effort had been invested in informing key personnel about the study requirements some sites eventually withdrew, claiming that they had not understood the requirements of the study and were unable to participate. For example, after the early implementation phase and several weeks into the study, eight counties withdrew from the CEEP study after deciding it was too difficult to implement the intervention for reasons related to lack of teacher resources, insufficient program time to devote to the program requirements, and inability to meet the required ratio of teachers to students. As a result, site recruitment was staggered over a protracted period as new sites were approached for recruitment, delaying the professional training and implementation of the intervention. These issues were tied to a strained fit between sites' understanding of and ability to provide resources necessary for the implementation of the program.

Familiarity with requirements and intent of highly structured research designs. Some administrators do not need much convincing that there is a high return on investment for participation in rigorous research projects, which is related to either previous positive experiences or their recognition that evidence-based decisions underpin their ability to improve academic achievement scores. The amount of time needed for program implementation, however, and the availability of afterschool staff to teach in the classrooms, are specific considerations that are typically the most resource intensive requirements that plague normal program operations. Afterschool programs on the whole have not been asked to implement rigorous studies of structured academic programs. However, changes to program materials must sometimes be requested and made to address problems with time allocations and staffing resource issues.

For example, although the *Adventure Island* program was designed as 45-minute lessons, school visits at the beginning of the study led to the modification from four to three days per week given teaching staff availability and the need to use one model for all participating schools. *Adventure Island* was delivered three days per week for one hour each day so that the amount of instructional time met program requirements. The CEEP study staged staggered teacher trainings and continued to implement the program despite late start-up, which resulted in a low degree of on-model program implementation. All three studies made modifications to their program delivery to accommodate teacher and program requirements. None of the sites ran their afterschool program five days per week, which required some compression of program delivery. The MPR study, in particular, made modifications to their program delivery based on feedback from the afterschool program and teachers, moving from a four-day a week model to a compressed two-day a week model that still provided the same amount of time on the program.

Relationship between evaluators and program developers. The quality of the relationship between evaluators and program developers became an

important issue over the first year. Significant developer support, required for these efficacy trials, enhanced the quality of program implementation when important information about the progress of the study was shared effectively and in a timely manner between the evaluation team and the program developers. A number of common problems with research in applied settings arose during the first year, and were confronted successfully when conversations between afterschool program staff, evaluation researchers, and developers were effective. One problem that arose for all three studies was the need for program adjustments to meet afterschool program constraints. Healthy, ongoing conversations between research stakeholders increased the likelihood of reaching consensus on program modifications or "tolerable adaptations" (Cordray, 2008).

Key Strategies

Fully informed key personnel on both evaluation research and program sides. Although it is common for unforeseen difficulties to develop, both the evaluation researchers and the program staff must have an accurate projection of the needs and requirements for high-quality program implementation. In the case of the SFA study, recruitment efforts had reached what seemed to be a good fit between sites and study requirements, when a last-minute budget shortfall brought into question whether enough afterschool program funding would be available to keep the program running throughout the school year. The district administrator who had been instrumental during recruitment was motivated to improve the quality of the district's after-school offerings, an objective shared by the project, which required additional financial resources to extend the afterschool program. This extension allowed for the implementation of the intervention program across the school year (i.e., the afterschool program was not funded originally to provide services through the end of the school year). In this case, the quality of communication between the study staff, the district administrator, and program sites improved the likelihood that the unforeseen problems would be resolved successfully.

Loss of recruited sites may have been be pre-empted through presentations to several layers of stakeholders, preferably in person, to explain the design of the research, the basic elements of the program to be implemented, and provide a period of questions and answers. In the ideal, unanticipated resource shortfalls and budget constraints for afterschool programs may have a better chance of being solved creatively when the project advocates have agreed to participate, are fully informed, and want the study to be a success. Given the loss of significant portions of the first year cohort, implementation difficulties, and insufficient program resources to provide the needed teachers and program time for the intervention, CEEP and Voyager felt there were no alternatives other than to conclude the study. By the end of the first year, CEEP, Voyager, and SEDL all agreed it was not feasible to go forward with the original study as designed given that none of the program sites indicated that they could assure the resources necessary to participate in the study.

Adaptability in response to rigorous research design and structured programming. The SFA and MPR studies were able to adapt to the afterschool conditions that affected program implementation without threatening the integrity of their research designs. The amount of time needed for the structured academic programs, teacher and administrator feedback on the program's fit to the afterschool setting, and the availability of afterschool staff to teach in classrooms led to adjustments in the delivery of the intervention programs. None of the sites ran their afterschool programs 5 days per week. In the SFA study sites, most programs had certified staff teaching afterschool three days a week and paraprofessionals on the fourth day to provide an additional day of afterschool programming. The three-day version of the *Adventure Island* curriculum was a slight modification, and therefore an acceptable adaptation to the program design, resulting in a need for adjustments to pacing of the lessons. Although the *Adventure Island* program called for 45-minute lesson blocks, school visits at the beginning of the study led to the modification from four to three days per week given teaching staff availability and the need to use one model for all participating schools. *Adventure Island* was delivered three days per week for one hour each day, which met on-model instructional time requirements.

Between the previous year of research funded by the William T. Grant Foundation and the first year of research under SEDL funding, Scholastic developed a new version of *READ 180* (Enterprise) that incorporated changes in materials, emphasis, and technology. The

earlier version of *READ 180* was more adaptable to a 60-minute period that fit well with the existing afterschool schedule; the new Enterprise version was more difficult to modify. Suitable modifications to the new program were found, while still maintaining the rigor of the research design. Changes from the first-year four-day per week/60 minutes per day model were made in the second year to include a two-day per week/90 minute model (except for one school that offered a four day per week/90-minute model). The two day per week model was well-received by the afterschool teachers, and was expected to increase attendance rates and decrease attrition rates, while permitting greater flexibility in scheduling the daily routine of the afterschool program.

Successful communication between evaluators, afterschool program staff, and developers. The conditions of these efficacy trials required that the RCT awardees work with the program developers and the afterschool programs to implement a promising intervention program under ideal conditions. Afterschool settings are characterized by a number of conditions that add complexity to the delivery of structured academic programs. Miscommunication or spotty information between evaluation researchers, afterschool staff, and developers raises anxiety that the project is either not going well or that the program is not being implemented well enough to give it a reasonable chance to show positive effects. Again, an upfront investment of time and energy to develop strong alliances in the effort to achieve successful program implementation pays off in the end.

As in any rigorous research design applied to school settings, a number of issues arose immediately that never were resolved and negatively impacted the CEEP study. Sample recruitment problems, rolling enrollment, and staggered teacher training and implementation of the intervention were the most critical threats to successful implementation of the Voyager program. . More generally, the degree to which rapport and trust can be built between the key staff on the evaluation and developer teams, in addition to the afterschool staff, the greater the chance that reasonable solutions can be found for the problems likely to occur in all applied settings.

Additional strategies for successful implementation. There was a cadre of "unsung heroes" working behind the scenes in the successful projects. The local district coordinator overseeing the SFA program sites was a dedicated point person with deep knowledge of district operations and history, its administrators, and its lead teachers. She and the professional development trainer provided on-site technical assistance.

Other staff (research contacts at each program site, program administrators) involved in both the SFA and MPR studies were willing to devote time and energy to facilitate success with the rigorous implementation requirements, including tracking down students who were absent from the classroom, talking with parents, and providing candid feedback to study staff that assisted the development of modifications that improved program implementation. Research contacts, site leaders who were liaisons with the SFA district coordinator, were trained and served as backup teachers in treatment classrooms. In the case of one school, a research contact had to take over a classroom while serving in the role of research contact because a replacement teacher was never found.

Studies also used incentives to decrease student attrition after scheduled school breaks (i.e., winter, spring break) and to reward students after successful assessment periods. The MPR study arranged pizza parties after breaks and testing to encourage student attendance, and the SFA program had built-in opportunities connected to student progress and attendance to earn points that could be spent to buy prizes. The incentives effectively encouraged student compliance with scheduled study activities.

General Discussion

Differences between grantee structure types—contractors, university policy center, and university-affiliated developer—played a role in the strengths and challenges the awardees brought to overcoming the problems associated with implementing rigorous research designs in afterschool settings. MPR, a private organization familiar with contract research and evaluations of programs, had benefited from first-year "pilot" data from which to implement the first year of the SEDL study. MPR's project director had built trust on the developer side as well as on the district side of the projects, with deep knowledge of the program and "real life" application of it in the school settings. This arrangement between evaluator and program represents a strong investment on all

sides of the project and a willingness to brainstorm and creatively solve problems. All these qualities came into play in the overall success of the project.

The establishment of good communication patterns and trust between developers and evaluators also assisted the successful implementation of the programs. A critical set of conditions is essential, such as working from a common understanding and framework established between researchers, developers, as well as schools, regarding collection of assessment data, when it will be shared, what decisions will be made regarding implementation of the program based on fidelity data, and when the decisions will be implemented. The recruitment phase was a critical predictor of implementation success, influencing things like program administrators' understanding of study requirements critical to successful randomization fidelity and preservation of the sample.

Conducting rigorous studies in applied afterschool settings requires that researchers balance the need to be flexible, while meeting critical benchmarks related to high quality research. Although the challenges encountered during the recruitment period ultimately delayed the start-up of the SFA study, recruitment efforts provided critical information about implementing high-quality ELL afterschool programs and also led to the enlistment of an administrator who may have been the key to the overall success of the recruitment phase. In the discussion of implementation, information is offered to uncover how the background conditions of the studies mattered for their implementation. Exploring the "black box" containing information about the implementation of these studies helps evaluation researchers identify critical areas for program improvement, such as the identification of "tolerable adaptations" (Cordray, 2008) to the intervention models in "real life" application.

Unanticipated resource shortfalls for afterschool programs contributed to the loss of recruited sites in two of the three studies. The overall sample size for the CEEP study was significantly lower than initially projected for a number of valid reasons. Evaluators must, however, be able to reach and retain sample size targets that account for fairly high attrition rates seen in afterschool programs and meet the required size estimates for statistical power. Once too many sites are lost, or student attrition reaches dangerous levels, not much can be done to save the integrity of the design in RCT studies. The compressed timeframe between the start of the school year, the launch of afterschool program sites, and the release of project funds can hamper the project staff's ability to complete the required background research on program suitability. Although the RCT project staff engaged in a variety of processes to gain this knowledge before the implementation of the studies, there were important pieces of information that were gained along the way that were acted upon quickly and that ultimately contributed to successful project outcomes.

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