Mile High United Way Early Literacy Social Innovation Fund Evaluation Plan Summary

Submitted June 14th, 2012 by OMNI Institute on behalf of The Bridge Project

Grantee Name: The Bridge Project

Evaluation Contractor: (Name and Organization)

OMNI Institute (OMNI) will serve as the external evaluation contractor. OMNI is a Colorado-based, applied social science nonprofit organization that was founded over 30 years ago to integrate research, community practice and technology for the improvement of the public and non-profit sectors. Melissa Richmond, PhD, Director of Research and Evaluation, will serve as the Project Director and Kate Smiles, MPP, Researcher II, will serve as the Project Manager. Dr. Fred Pampel, a research scientist with the University of Colorado at Boulder's Center for the Study and Prevention of Violence, will serve as a statistical and design consultant on the project.

Program Synopsis: Please provide a one paragraph synopsis of the program and what it intends to change/impact.

The mission of the Bridge Project is to provide educational opportunities for children living in Denver's public housing neighborhoods so they graduate from high school and attend college or learn a trade. The Bridge Project currently has a comprehensive intervention that integrates three programs that provide direct service focused on reading and early literacy:

1. ReadWell, a K-3 reading and intervention program that features mastery-based and research-validated instructional strategies, multiple entry points for placement into appropriate small groups, a unique sound sequence, differentiated instruction with flexible pacing, and ongoing assessment/progress monitoring;

2. GR8 (Great) Readers, which provides kindergarten through third graders with eight books over the course of the school year and another eight books over the summer in the hopes of building their love of reading, their home libraries, and their access to age and content appropriate books; and

3. One-on-one tutoring for a minimum of 45 minutes per week where participants are matched with a trained adult tutor for the academic year and meet with the same tutor at least once a week throughout the school year. During the tutoring

The SEP summary provides a good introduction into the Bridge Project program and explains the program components. While the descriptions of the ReadWell and GR8 Books make clear what grades are served, the target group for the one-on-one tutoring is not clear. Is the one-on-one tutoring also only for kindergarten through third grade students, or is it available for others as well?

sessions, students are able to work with an adult on materials, activities, and content that are specific to their ability level rather than their grade level.

Through a combination of these three direct literacy programs, the Bridge Project offers participants the opportunity to experience many facets of literacy and allows them to take an active role in their learning. The variety of programs, projects, and activities addresses the needs of all types of learners and allows the students to feel success in their own capacity. Through expanded resources and the support of the Early Literacy Social Innovation Fund, the Bridge Project anticipates increasing the percentage of students reading at grade-level or higher by a minimum of 25 percent each year.

Level of Evidence: Describe the level of evidence targeted (preliminary, moderate, or strong) and a brief description of why that level is targeted.

The Bridge Project will be targeting a moderate level of evidence. The Bridge Project conducts annual evaluations, collecting pretest data in the fall of each academic year and posttest data in the spring of each academic year. Results from the Bridge Project's most recent evaluations (2009-2010, 2010-2011) indicate the following in regards to reading:

- Bridge participants demonstrated a significant and positive increase in reading levels between pretest and posttest (t=14.66, p<.001) with youth averaging an increase of 2 reading levels from fall 2010 to spring 2011.

- A significant and positive relationship was found between total number of hours of participation in Bridge programs and degree of change in reading ability (r=.362, p<.001). In addition, participation in literacy programming at Bridge was positively related to improvements in reading (r=.369, p<.001).

- Summer reading programs also demonstrated positive effects with 22% of youth reading above grade level at the start of summer 2011 and 52% reading above grade level at the end of summer 2011 according to the Developmental Reading Assessment.

- Results on school outcomes indicate overall participation in the Bridge Project (r=.268, p<.001), as well as tutoring (r=.233, p=.01) specifically, was associated with increased school attendance.

Based on these findings, it is clear that participation in the Bridge Project, particularly in literacy programming and tutoring, was positively related to increases in reading ability and school attendance. These findings provide strong

The SEP summary states that the evaluation is targeting generating moderate level evidence. This level appears appropriate based on previous evaluations which have focused on outcomes and produced preliminary level evidence.

preliminary evidence for the program model. The existing evaluation infrastructure can be built upon to increase the rigor of the evaluation. The use of a quasi-experimental design (see below) will allow the project to address several threats to internal validity that were not possible with previous pre-post evaluations and move the level of evidence from preliminary to moderate.

Evaluation Design Overview: Please give a brief overview of the proposed evaluation design, including a description of the comparison group, control group, or other counterfactual, and how the comparison group (if any) will be identified.

Impact Evaluation Design

The impact evaluation seeks to strengthen the rigor of the evaluation through the use of a quasi-experimental design. Impact evaluation research questions include the following:

- What percentage of children served by the Bridge Project who are reading below grade level at program start reach grade level each year after receiving services?

- What is the cumulative impact of receiving multiple years of services? What percentage of children served by the Bridge Project is reading at grade level by the end of third grade?

- Which program activities are most closely linked to reading gains, what are the critical program elements for success? Does the number of hours of participation in program activities predict reading gains?

- Do youth participating in the Bridge Project improve in reading level, school attendance, and CSAP proficiency levels, self-concept, and positive youth development constructs (competency, character, caring/compassion, confidence, and connection) to a greater degree than children in similar public housing neighborhoods without Bridge services?

A quasi-experimental, between-group design will be utilized to assess whether children who receive Bridge Project services show greater gains in literacy skills than similar children who do not receive Bridge services. Children in K-3rd grades entering the Bridge Project in the following public housing neighborhoods will serve as the treatment group: North and South Lincoln, Westwood, Columbine, and Quigg Newton. Because all children in these neighborhoods are eligible for

The summary clearly describes the quasi-experimental design that will be used in the evaluation. The research design in the SEP summary involves a treatment group and matched comparison group. The impact research questions present both intent-to-treat (questions one and four), treatment-on-treated (question two), and implementation (question three); in the full SEP, it would be helpful if the different types of questions and their accompanying analyses are described separately in the full SEP. The summary also states that "The project will explore the possibility of utilizing statistical matching to equate groups if sample sizes allow." It will be important that detailed information on sample sizes and the exact matching procedure are included in the full SEP, as the level of evidence the evaluation is likely to attain rests on these two conditions.

and can receive Bridge services, comparison children will be recruited from similar public housing communities in which Bridge Project services are not currently available. Recruiting children from public housing is critical to the selection of an equivalent comparison group. Children in public housing face a variety of economic and situational challenges, and 100% of families in public housing live below the federal poverty line. The Denver Housing Authority is in the process of providing the project with a list of households in each public housing community that includes residents' ages, household annual income, length of stay, ethnicity, and race. Analyses will be conducted to assess similarities and differences across Bridge and targeted comparison communities.

Families will be invited to participate in the comparison component of the study through a series of outreach efforts supported by Denver Housing Authority, including mailing letters to the homes of families with children in grades K-3, posting flyers throughout the neighborhoods, and attending community events to provide information on the project. Families will be invited to informational sessions during which project staff will explain the study in more detail. If parents provide informed consent, they will complete an intake form that collects demographic information and Denver Public School (DPS) unique identifiers. The consent form will ask parents for permission to access their students' records over the course of the five year study, which will allow the project to track changes in comparison students' attendance and Developmental Reading Assessment scores over time (assuming children remain within the DPS system). Demographic information collected on the intake form will be examined to assess whether comparison children are similar to Bridge children on key demographic indicators (e.g., migrant status). The project will explore the possibility of utilizing statistical matching to equate groups if sample sizes allow. Statistical adjustments will also be utilized to lessen the likelihood that any observed differences in outcomes are due to group non-equivalence.

Implementation Evaluation Design

The implementation evaluation will seek to expand and strengthen evaluation efforts within the Bridge Project. Initial planning work will clearly define the program service model that will be closely monitored through process and fidelity measurement. This includes specifying expected service levels for the three primary interventions (ReadWell, GR8 Readers, and individualized tutoring sessions). Fidelity measures will be used to help standardize service provision, and related process data will be used in analytic models to test the relationship between services and observed outcomes. Primary research questions to be answered through the implementation evaluation include the following:

The summary provides a useful description of the implementation evaluation design, measures, and analyses that will be used. As stated above, it would be helpful if the research questions related to implementation were labeled as implementation questions, and tied to the implementation design explicitly.

- What level of program intervention was provided? How many Bridge children were successfully matched to a tutor? How many hours of ReadWell instruction and what types of instruction were received by participants? How many books were provided to students as part of Gr8 readers? Did these differ as a function of grade or other demographic characteristics?

- To what degree was each critical program component provided to participating children? To what degree were programs implemented as intended (individually and in combination)? What are implementation challenges associated with each type of program, do these differ as a function of child characteristics, and what are acceptable solutions to these challenges?

- What implications do findings hold for replication efforts?

A series of methods will be utilized to address the implementation evaluation questions. First, the project will track the level of program services received by each child participant, including the number of hours of participation in ReadWell and individualized tutoring, and the number of books provided through the GR8 Readers program. Currently, these data are collected on paper forms and subsequently entered into a formatted MS Excel data shell. The project also uses a web-based data system developed by CiviCore to manage portions of the Bridge Project data set. This system will be updated for this project to support local data entry, improved data integrity, and real-time integration of data sets. Program dosage data will be analyzed regularly to monitor the degree to which children are participating in the required amounts of each program area, as well as the program areas collectively. Second, fidelity of program implementation will be captured though self-report and observational methods for the three direct literacy interventions (ReadWell, GR8 Readers, and individualized tutoring). Self-report measures of program implementation will be completed by volunteer tutors and education specialists. Additionally, OMNI staff will conduct observational assessments of a random sample of ReadWell classes and tutoring sessions. Peer-to-peer observational assessments will also be explored. Fidelity assessments, tools, and protocols are currently being developed. OMNI and Bridge Project staff will review all process data to problem-solve emergent data collection issues and identify implementation challenges and solutions.

Finally, the project will collect data from comparison children during the same assessment timeframe as children participating in the intervention (i.e., each fall and spring). During these data collection periods, parents and children will be asked about participation in other literacy efforts to assess the degree to which comparison children are receiving programming that may impact results of the study.

Measures/Instruments/Data: Describe the measures or instruments to be used and the types of data to be collected from them.

The Bridge Project uses valid and reliable standardized measures and obtains objective school records. Data collected include: school data from Denver Public Schools (attendance, CSAP scores for students 3rd grade and higher), standardized reading assessments (Developmental Reading Assessment, 2nd edition; DRA2), exposure data indicating hours of participation in each program intervention, as well as self-report measures of positive youth development and self-concept (for students in 2nd grade and higher; (Piers & Herzberg, 2002). Program fidelity measures will be developed under this project. The primary outcome measure will be the DRA2.

Volunteer tutors and education specialists track program exposure information. At the end of each day for each child in attendance, staff document the number of minutes of participation in ReadWell classes and one-on-one tutoring sessions, and whether children received any GR8 Reader books. This information is documented on paper forms and provided to a University of Denver research assistant for data entry. In past years, this information was entered into MS Excel spreadsheets. The Bridge project is in the process of upgrading their CiviCore database to replace the Excel spreadsheets, which will greatly improve efficiency and data management. All process data are linked to children's outcome data through the DPS ID. Data entry protocols using the CiviCore system will be developed prior to the start of data collection. As mentioned above, assessments, tools, and protocols for measuring and tracking program fidelity are under development. OMNI staff will be responsible for developing a system and for tracking observational assessments of program fidelity.

Proposed Analysis: A one-paragraph description of the proposed analysis approaches.

It is anticipated that the project will experience some attrition within an academic year and across academic years. The project will utilize an Intent to Treat model in its analyses. Students who do not complete the Bridge early literacy intervention program will be in the treatment group. The project will continue to have access to literacy outcomes for students who leave the program, assuming they remain in Denver Public Schools.

A series of steps will be taken when conducting analyses. First, descriptive statistics on participant demographics and levels of program participation will be provided.

The SEP summary section on measures, instruments, and data includes an informative description of the measures that will be used along with the data collection efforts that will be employed.

The analysis section indicates that the evaluation will work from an intent-to-treat model, and that the outcomes for the three program components will be analyzed using descriptive statistics and ANCOVA. The ANCOVA model will allow for analysis comparing the treatment and comparison group while controlling for nonequivalence of the groups at baseline. This section also addresses the limitations of the data, and describes how these limitations will be dealt with as applicable.

Second, a series of analyses will be conducted to determine the extent to which the comparison and treatment groups differ on pretest and key demographic characteristics. If possible, analytic techniques to match comparison to treatment children will be utilized. Third, intra-class correlation coefficients will be calculated to assess the degree to which children within sites are more similar to each other on literacy outcomes than to children in other sites. If needed, standard errors will be adjusted in subsequent analyses to account for any data clustering. We also recognize that children participate in ReadWell in a small group setting that may create some additional data clustering. To capture and model this level of nesting would require significant alterations to the data collection infrastructure (i.e., rebuilding the database to include group tracking functions for one out of many interventions that are not group-based) and require large sample sizes to achieve statistical power. Moreover, we do not expect a great degree of clustering as a result of ReadWell, which is delivered in small instructional groups with the same teaching intervention, and children are also receiving one-on-one tutoring and GR8 Readers, which are not group-based interventions. Fourth, reliability-corrected analysis of covariance (ANCOVA) will be utilized to examine differences in outcomes between treatment and comparison groups adjusting for nonequivalence between groups on the pretest at baseline. Analyses will also estimate the degree to which program type and program dosage account for changes in literacy outcomes. These analyses will help assess which elements of Bridge are most closely tied to literacy gains, and whether a minimum program dosage is necessary to see effects. Reliability-corrected methods attempt to address bias introduced into ANCOVA methods from pretest measurement error. The project will also explore whether there is sufficient power to employ more sophisticated analytic techniques, such as multi-level modeling. Dr. Fred Pampel, a research scientist with the University of Colorado at Boulder's Center for the Study and Prevention of Violence, will serve as a statistical consultant on the project.

Timeline:

A rough project timeline is provided below. Data collection for the project will occur over the course of four academic years (2012-13 to 2015-16). The project proposes to serve 100 new K-3 children each year, for a total of 400 children over the four year period. Comparison children will be recruited to participate at the beginning of each academic year. Pre-test data collection will occur in September and post-test data collection will occur in April/May. September data collection

The SEP summary includes a very thorough and detailed timeline.

---

[1] The school calendar generally starts at the end of August and ends in early June.

will also serve as post data for returning Bridge children and for children who received summer programming (these children will be pre-tested at program entry). Process data will be monitored in an ongoing basis to inform program improvement.<?>

Bridge Project SIF Evaluation Timeline

Evaluation Activity	Lead	2012-13 School Year															Sum 13			2013-14 School Year									Sum 14		
		Project Year 1																		Project Year 2									Project Year 3		
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
PLANNING																															
Project start-up	OMNI	■																													
Planning meetings with MHUW, JBS, DHA, DPS	OMNI/Bridge		■	■	■	■	■																								
Develop and finalize evaluation plan summary	OMNI		■																												
Outline service structure and components to be addressed by	Bridge/OMNI		■																												
Develop SEP	OMNI				■																										
Develop recruitment plan	OMNI				■																										
Finalize and submit SEP	OMNI					■																									
Revise SEP (as needed)	OMNI					■	■																								
Submit amended IRB Application	OMNI						■																								
DATA COLLECTION																															
Pilot CiviCore data system for process/fidelity data tracking	Bridge/OMNI				■																										
Develop and finalize pretest data collection protocols	OMNI				■																										
Develop and finalize fidelity instrument(s), including	OMNI				■	■																									
Develop sampling plan for site observations	OMNI					■	■	■																							
Develop consent forms/protocols for comparison students	OMNI/Bridge					■	■																								
Recruitment and consent for comparison students	Bridge/DHA							■												■											
Pretest data collection	Bridge							■																							
Postest data collection	Bridge													■												■					
Obtain student-level data from DPS for Bridge and comparison	OMNI																					■									
Process data collection (dosage and fidelity)	OMNI/Bridge							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Monitoring of data quality	Bridge							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
OUTCOME DATA ANALYSIS																															
Bridge students only	OMNI																■												■		
Comparison/Bridge student analyses	OMNI																														
REPORTING																															
Reporting for Bridge (TBD)	OMNI																					■									
SIF required reporting (TBD)	OMNI/Bridge																														
MEETINGS																															
Bridge, ED OMNI Project Manager (data quality monitoring)	OMNI/Bridge		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Bridge, DU research, OMNI (TBD)	OMNI/Bridge																														

Bridge Project SIF Evaluation Timeline

Column periods: **2014-15 School Year (Project Year 3)** = Sep–May (cols 1–9); **Sum 15** = Jun–Aug; **2015-16 School Year (Project Year 4)** = Jun–May; **Project Year 5** = Jun–Feb.

Evaluation Activity	Lead	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
DATA COLLECTION																															
Recruitment and consent for comparison students	Bridge/DHA												X	X																	
Pretest data collection	Bridge	X																													
Postest data collection	Bridge								X	X											X	X									
Obtain student-level data from DPS for Bridge and comparison	OMNI	X	X											X												X	X				
Process data collection (dosage and fidelity)	OMNI/Bridge	X	X	X	X	X					X	X	X	X	X	X	X	X	X												
Monitoring of data quality	Bridge	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	X	X	X									
OUTCOME DATA ANALYSIS																															
Bridge students only	OMNI											X	X										X	X							
Comparison/Bridge student analyses	OMNI			X	X										X													X	X	X	
REPORTING																															
Reporting for Bridge (TBD)	OMNI																														
SIF required reporting (TBD)	OMNI/Bridge																														
MEETINGS																															
Bridge ED, OMNI Project Manager (data quality monitoring)	OMNI/Bridge	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Bridge, DU research, OMNI (TBD)	OMNI/Bridge																														