Extending the branches of the Giving Tree: A community-university partnership to examine the impact of summer school support for disadvantaged youth

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Cover Page Footnote
The authors extend their appreciation to American Sociological Association for its generous grant support through the Sydney S. Spivack Program in Applied Social Research and Social Policy Community Action Research Initiative (CARI). We also thank School Social Worker and Giving Tree Committee Member Bobbi Nowaczyk whose leadership and dedication to her students made this research possible. Finally, we express our gratitude to Karlyn Crowley, Tynisha Meidl, and Stan Thangaraj whose suggestions improved the project considerably.
INTRODUCTION

Significant social justice issues, such as equality of educational opportunity and poverty, can best be improved when institutions of higher education substantially increase their commitment to engaged scholarship driven by self-identified community needs. Universities are a crucial asset, not just to educate students, but also to create knowledge that benefits the community (Percy, 2007). Stoecker (2005) argues that academic research is not the monopoly of educational researchers, but can be used by people everywhere as an empowering tool for organizing and developing their communities. Research can build democracy by redistributing both power and responsibility. Ideally, community-based research engages faculty and community members in addressing community-identified needs. Thus, the citizen-scholar model of engagement suggests that understanding community-driven change requires local-level empirical research (Hesser, 1999).

This collaborative community-university project provides an example for how educational research can be applied to needs dictated by the community. Thanks to the support of the Howard - Suamico School District and the community, The Giving Tree, a non-profit community organization located in metropolitan Green Bay, Wisconsin works to serve over 150 families per year facing economic challenges. Along with multiple forms of assistance, the organization funds summer school and transportation expenses for socio-economically disadvantaged families. Two voluntary three-week summer school sessions provide grade-level instruction and support in mathematics and a grade-level literacy lab and book club to develop strategies as a reader for comprehension. The summer school classes are offered at a local elementary and high school and are run by current teachers from the district.

As the organization connects to various local businesses and foundations to generate additional support and funding for summer school programming, The Giving Tree responded to a request for proposals from St. Norbert College for assistance in analyzing assessment data. We draw upon Ernest Boyer’s (1996) conception of the scholarship of engagement which originates in response to mainstream modes of scholarship that are increasingly specialized with highly complex technical knowledge and not accessible to the public (Baker, 2004). While not designed to replace traditional scholarship, engaged scholars aim to broaden and deepen the scope of civic engagement in academic research. We offer our case study: 1) as an example of a collaborative community-university partnership, 2) a demonstration how quality empirical research can make meaningful differences in children’s lives, and 3) to show how research can guide future endeavors and organizational strategic planning.
CASE STUDY BACKGROUND

Boyer (1996) challenges previous notions of paradigmatic boundaries defined by traditional disciplines where “universities are now seen as places where students get credentialed, academics get tenured and that their work does not necessarily address the most pressing needs of society” (Duke & Moss, 2009, p. 31). Boyer champions four domains that constitute scholarly engagement: scholarship of discovery, scholarship of integration, application of theory and the scholarship of sharing (Starr-Glass, 2011). These domains provide a teaching and research outcomes that have the power to extend knowledge and transform people (Boyer, 1996).

St. Norbert College, a Midwestern Catholic liberal arts college, was selected for the 2010 Community Engagement Classification by the Carnegie Foundation for the Advancement of Teaching. This type of recognition is typically bestowed to institutions where faculty shows a sufficient level and commitment to a unique form of community-engaged scholarship. Such scholarship involves faculty members working in a reciprocal collaboration with a community partner (Lynton, 1995). Increasingly, reciprocity is understood to go beyond mutual benefit to include recognition, respect, and the appreciation of knowledge, resources, and perspectives that all partners contribute to the collaboration (Jameson, Clayton, & Jaeger, 2010). Such strength-based approaches stress local leadership, investment, and control in the planning process as well as shaping the outcomes, with the understanding that community members are often in the best position to understand a community’s strengths and capabilities (Benson, Scales, & Manners, 2003). The most praised applied research projects have defined goals, adequate preparation, rigorous methodology, creation or application of new knowledge, and peer review (Gelmon, Seifer, Kauper-Brown, & Mikkelsen, 2005). These forms of community-engaged applied projects have been implemented in a variety of settings including public education systems.

Within teacher education programs, many public-school-university relationships are cooperative enterprises for the preparation of future teachers, sites for research on instruction, and opportunities for on-going accreditation (Clark, 1988). In contrast to former university-community models of applied research that tends to “invade” communities, urban affairs and policy researchers Kretzmann and McKnight (1993) argue practitioners should follow the lead of community organizations in mobilizing its assets. Increasingly, institutions of higher education actively promote community and/or civic engagement. Although community engagement has various definitions, three common themes emerge from most descriptions: a focus on community, active participation, and various engaged activities (Gottlieb & Robinson, 2002).
LITERATURE REVIEW

Education has long been viewed as lessening social inequality and expanding opportunities for future generations. However, sociological research often reveals that education can hinder social mobility as producers of inequality themselves (Bowles & Gintis 2002; Collins 1979; Kozol 2005; Lucas 1999) or to reinforce inequality (Bourdieu 1977; Lareau 2000; MacLeod 1995). Scholars who examine how socio-economic status (SES), race, and gender impacts educational outcomes point to consistent disparities in graduation rates, college attainment, grade point averages (GPA), and standardized test scores as indicators of contemporary inequality. Social reproduction theorists argue, whether through class-based socialization patterns or cultural capital resources, schooling acts as an obstacle to social mobility and further perpetuates social stratification.

Under Bourdieu’s (1973) framework, research focuses on access to valued resources, where the amount of social capital one possesses depends on the size and quality of the network connections one holds. Children enter school with or without “cultural capital.” This cultural capital refers to any benefits that a person holds that indicates or promotes a higher status in society, including forms of knowledge, skill, expectations, tastes, and demeanor (Bourdieu 1973). Upper class parents pass down the attitudes and knowledge to their children, which allows for a smooth transition into the education system. Bourdieu’s research stresses the structural limitations and unequal access to resources due to various ascribed characteristics, such as race, ethnicity, and class. Sociologists often use Bourdieu’s conceptualization to explain differential experiences in schools (Lareau 1989; Stanton-Salazar and Dornbusch 1995).

More recent qualitative research has unpacked the notion of cultural capital. For example, Annette Lareau (1989) studied how the structure of family life and the structure of school shape different levels of parent participation in their children’s education. By comparing and contrasting two schools (one working class and one middle class), Lareau examined which cultural capital resources parents utilized. Parents’ lower-level educational experiences, the perceived “proper” role for parental involvement, and their hierarchical status relationship with educators lead Lareau to characterize the relationship between family and education in the working class school as separation. Working class parents worked to prepare children for school and to reinforce materials, but they did not make attempts to change children’s school experiences. In contrast, parents at the middle-class school, particularly mothers, actively tried to influence their children’s school site experience. Thus, education success was not just a combination of ability and intelligence, but was guided and supervised by their
parents for a tailored, customized educational experience. This family-school relationship is described by Lareau as *interconnectedness*. “The actions of parents seem to be linked to the resources their education, occupational status, income, and differences in family life provided” (Lareau 1989:107). Her work shows the small, but multiple and decisive ways middle-class parents act to ensure their children receive the best education, teachers, and extra resources.

From reading comprehension to math scores to overall general knowledge, research suggests students are largely affected by their parents’ educational and SES background (Downey, vonHippel, & Broh, 2004). Students living in poverty face additional burdens linked to low-SES. Although schools attempt to minimize the effects of poverty during the school year, low-SES students experience greater educational losses in the summer months, largely due to differences in parental earnings, status, and education (Entwisle & Alexander, 1992). Losses are particularly prevalent when students from high-SES backgrounds engage in activities that are culturally enriching (e.g. going to art museums and traveling to large cities) compared to low-SES students who only have the opportunities available to them within their home and community (commonly referred to as unstructured activities).

Previous summer learning research studies address the effects of compulsory education, and in particular, the degree to which gains made during the school year persist. Several studies find that the beneficial effects of Title I programs, designed to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education, are not sustained during the summer months (Borman & D’Agostino, 1996; Thomas & Pelavin, 1976). Hammond and Frechtling (1979) find during the spring to fall interval, the first- and third-grade compensatory education students experience greater losses compared to their more advantaged classmates in both reading and math. Additionally, summer school programs do not affect the patterns of relative summer loss. In terms of literacy learning, on average, children from high-SES families learn more during summer months than their less-advantaged counterparts (Burkam, Ready, Lee, & LoGerfo, 2004). Furthermore, Burkam et al. (2004) find summer activities, including summer school, have a very slight impact on summer literacy learning. Thus, designing effective summer school literacy curriculum is an ambitious endeavor. However, Burkam et al. (2004) also find that structured activities, educational excursions, and the educational use of computers are related to gains in summer math learning. Children who go on more summer trips gain slightly more than children who go on fewer summer trips. Surprisingly, students who attend required or recommended summer school gain less in comparison to students who were able to engage in summer trips (e.g. museums, historical sites, large cities, and zoos).
Previous research explores the seasonal pattern of standardized test scores which find that home economic disadvantages are compensated for when school is in session. In other words, poor children and economically better-off children perform at comparable levels during the academic year (Downey et al., 2004). However, summer is the season when serious losses occur for poor children (Entwisle & Alexander, 1992). These findings suggest one meaningful way to combat educational inequality would be to provide summer school programs for children below the poverty line. Thus, as Downey et al. (2004) claim in terms of socio-economic inequality, schools can serve as a “great equalizer.” The evidence on the effectiveness of summer schools is mixed. For example, some research finds summer school has limited success in catching up students who attend remedial summer school (Heyns, 1987). However, the proper baseline is important when evaluating programs. Entwisle and Alexander’s (1992) work suggests that summer programs, particularly those designed for disadvantaged students might prevent a summer loss. Even if children’s scores at the end of the summer would be the same as their scores at the beginning of the season, the maintenance of knowledge over the summer months is an improvement. These findings demonstrate the imperative nature of assessment data in summer school programmatic formation and implementation. Programs that prevent poor children from losing ground can be extremely valuable, with research-backed results.

RESEARCH METHODOLOGY

Data
Prior to analysis, the researchers and the Giving Tree developed a Memorandum of Understanding with the Howard-Suamico School district to provide student-level data for the purposes of this project. The data consists of a stratified random sampling of de-indentified student Measures of Academic Progress (MAP®) standardized test scores for spring 2010 and fall 2010 from seven Howard-Suamico elementary and middle schools divided by socio-economic status and summer school participation. Data are drawn from five elementary schools and one middle school, with a final sample of 363 K-8th grade students. MAP® tests are a series of computerized adaptive assessments offered in several subject areas typically administered to students in both the fall and spring. The assessments have a cross-grade scale to track growth of students across a single instrument over time, use a one-dimensional Rasch model grounded in Item Response Theory (IRT), and have a low standard error of measurement (NWEA, 2011).

Economic standing is based on an indicator if the student is eligible for free/reduced lunch. For comparative analysis, the four subsamples include: a sample of pantry-funded students who attended summer school, a sample of
similar socio-economically disadvantaged students who did not attend summer school, a sample of general population students who attended summer school, and a sample of general population students who did not attend summer school. The general population students were matched by grade level and randomly selected for the subsamples.

Methodology
Similar to Entwisle and Alexander (1992), our first analysis explores seasonal test performance differences and gains/losses between examinations. Second, to find out which differences between student samples could be attributed to sampling fluctuations, we conduct a multivariate analysis of variance (ANOVA). Finally, we assess the summer session gain/loss differences between those students who attended reading and math-specific summer school courses as well as differences between students of low socio-economic status (SES) and high-SES levels.

RESULTS
Table 1 shows the means and standard deviations for spring and fall test scores and gains/losses in the analysis by student socio-economic standing and summer school attendance for 2010. These means represent the averages for students who took any summer school coursework. Overall, test scores vary according to the students’ socio-economic status and by summer school attendance, but not always in the way one might expect. Based on extant literature, we expect to find the biggest losses in the subgroup of low-SES students who did not attend summer school. However, data in Table 1 indicate otherwise. For example, math scores (219 for spring and 218 for the fall) for this subgroup is the highest compared with other subgroups, and the highest scores overall compared with all other types of subgroups. Additionally, this is the only subgroup to experience a gain in reading test scores. In terms of gains and losses between spring and summer, students from the general population who did not attend summer school have the lowest mean math losses. The low-SES student sample who did not attend summer school is the only group to have a mean gain in reading scores. The ANOVA results find the differences for the reading gain/loss are not significant at the standard .05 or .10-levels, but are significant at the .15-level (Bonferroni post-hoc test). The mean differences for math were significant just over the .15-level and that the differences in means are unlikely to have occurred by chance.
Table 1. Means and Standard Deviations for Variables in the Analysis by Student Socio-Economic Standing and Summer School Attendance: Howard Suamico, 2010

<table>
<thead>
<tr>
<th></th>
<th>Low SES Students</th>
<th>General Population Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Summer School</td>
<td>No Summer School</td>
</tr>
<tr>
<td><strong>Math</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Math Score</td>
<td>204 (13.5)</td>
<td>219 (16.3)</td>
</tr>
<tr>
<td>Fall Math Score</td>
<td>203 (12.5)</td>
<td>218 (18.1)</td>
</tr>
<tr>
<td>Math Gain/Loss</td>
<td>-1.12 (5.6)</td>
<td>-1.13 (7.4)</td>
</tr>
<tr>
<td>Sample Size</td>
<td>32*</td>
<td>98</td>
</tr>
<tr>
<td><strong>Reading</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Reading Score</td>
<td>196 (13.7)</td>
<td>208 (18.0)</td>
</tr>
<tr>
<td>Fall Reading Score</td>
<td>194 (13.7)</td>
<td>209 (17.6)</td>
</tr>
<tr>
<td>Reading Gain/Loss</td>
<td>-1.85 (8.7)</td>
<td>1.39 (8.4)</td>
</tr>
<tr>
<td>Sample Size</td>
<td>33</td>
<td>96*</td>
</tr>
</tbody>
</table>

*Missing test score(s) reduce sample size between math and reading exams.
Note: Numbers in parentheses are standard deviations.

However, once we differentiate which type of summer school coursework students (math or reading/literacy) took, interesting patterns emerge. Students taking mathematics summer school coursework see lower losses and/or gains in their math MAP scores. This was especially true for low-SES students whose mean math fall test scores see a gain. Figure 1 shows the mean math score gains/losses by student socio-economic standing and math summer school attendance for 2010. In contrast, students taking reading and/or literacy summer school coursework see losses in their fall scores. This is particularly the case for the general student population. Figure 2 shows the mean reading score gains/losses by student socio-economic standing and reading/literacy summer school attendance for 2010.
Figure 1. Mean Math Score Gains/Losses by Student Socio-Economic Standing and Math Summer School Attendance: Howard Suamico, 2010
Parental socio-economic background impacts parental involvement in school, the type of school their children attend, the activities that they participate in the summer months and after school hours, as well as the resources they have available to them. Schools are encouraged to make up for these educational inequality trends to create an environment of learning that is comparable for students from all SES backgrounds. Public school districts, after-school youth programs, non-profit organizations, and national foundations attempting to reduce socio-economic educational disparities employ multiple learning interventions. One such intervention is summer school programming. If non-profit organizations, like the Giving Tree, hope access to summer school programs is a viable route to reducing SES inequalities; rigorous assessment measures must be built into curriculum design as well as continually monitored.
Our research findings have significant implications for the Giving Tree and the Howard - Suamico School District. First, the good news: our results find that on average, students who took math-related coursework during the summer school showed lower losses (for the general population students) and gains (low SES students) between spring and fall math examinations. Similar to Downey et al. (2004), these results suggest that the summer school coursework in mathematics is one way to combat educational inequality by providing summer school programs for children below the poverty line. In essence, these students were able to “catch up” or make up some ground during the summer months. Additionally, the intervention also helps reduce the losses for more socio-economically advantaged students taking mathematics coursework. However, the data also suggest that reading/literacy-specific summer school coursework has the opposite result. We first discuss some limitations to consider before offering our suggestions.

While our control groups (socio-economically disadvantaged and general population) that did not attend summer school are randomly sampled, the families who chose to enroll their children in summer school are not randomly assigned. Teachers and administrators often recommend summer school coursework for struggling students. Although all students that qualify for free/reduced lunch were encouraged to enroll in summer school, the subgroup means do suggest that low-performing students are overrepresented in summer school enrollments for both low SES and general population students, with lower means in spring (time one) in math and reading. Furthermore, beyond standardized test performance measures, growth patterns could also vary in systematic ways across performance levels. Future research studies should take into account students’ starting position to more accurately measure the impact of the summer school coursework. Finally, our sample size limits our ability to discuss potential differences across grades, between racial/ethnic groups, or other potential underlying reasons why the impact of summer school may be different for various groups of students.

These limitations notwithstanding, we offer a few recommendations for the Giving Tree and the Howard - Suamico School District. First, expand the mathematics summer school coursework which appears to benefit all students. This expansion could be longer days, more session offerings, and/or a greater volume of material covered. Second, the results also suggest that the current summer reading and literacy coursework may need revision. Curriculum design could replicate the current math sequence. Additionally, previous research finds that summer activities like educational field trips, computer usage, and structured games can have a positive impact on summer literacy learning (Burkam et al., 2004). Curriculum coordinators could also look at coupling traditional curriculum units with experiential pedagogical practices. School district leadership and the
Giving Tree board should investigate how pedagogical summer school reading/literacy best practices may illuminate more successful curricula options in the content area. Finally, this study highlights the power of educational assessment data in strategic planning. On-going data collection and analysis will continue to provide meaningful ways to examine the impact of educational interventions, like summer school programming, for disadvantaged youth. Furthermore, valid data collection supports future grant-seeking efforts for this non-profit organization. Data is often a critical element in convincing grant funders to invest resources in a particular project (Gajda & Tulikangas, 2005).

This case study highlights how community organization partnerships with university research builds on pre-existing community assets and further promotes asset-based community development. Michael Burawoy urges academics to pursue research which “steps out of the protected environment of the academy and reaches into the pockets of civil society . . . into an unmediated dialogue with neighborhood associations, with communities of faith, with labor movements, with prisoners . . . [in ways that are] likely to be local, thick, active” (Mitchell, 2008, p. 25). Community-based organizations and nonprofits play a pivotal role in delivering, securing, and institutionalizing sustained outcomes for community members (Hyman, 2002). Thus, the strength of the community-university partnership is that through it, colleges and universities can share the community goals and bring to the partnership research resources that would otherwise be inaccessible (Messer & Kecskes, 2008). The application of rigorous social science methodology and expertise legitimates community organizations attempting to foster philanthropic support which prize empirical measures of assessment and evaluation.
WORKS CITED


