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Academic Outcomes of a Precollege Intervention Program

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COLLEGE OF EDUCATION

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John Phung

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2016

Abstract

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MA, National Hispanic University, 2011

BS, University of California Berkeley, 2005

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The No Child Left Behind Act of 2001 demanded that public schools demonstrate adequate yearly progress by increasing student educational achievements. In 2014, the local high school at this study enrolled 62.7% socioeconomically disadvantaged students and implemented a precollege intervention program; however, little is known about its efficacy due to a lack of a formal evaluation, prohibiting an informed approach to continual improvement. The purpose of this program evaluation was to determine if program participation resulted in the higher academic outcomes. Guided by the theory of change, the program evaluation was used to assess the efficacy of the local high school's year-long precollege intervention program in a convenience sample of 112 Grade 9 students. The research questions examined the difference between the program participants and non-participants' academic outcomes including grade point average and semester course grades in math, English, science, and social science from Semester 1 to Semester 2 in the 2014-2015 school year. Independent samples *t* tests were used to identify whether there was a significance difference between the mean-scores of the intervention and control groups. The results indicated that the program did not significantly impact the participants' academic outcomes, and the program goals were not met. The evaluation report included the results, provided recommendations to increase understanding of the intervention program and students' needs, inform and engage stakeholders, redesign program goals, allocate resources, and streamline program activities. The improved program model could enhance students' academic outcomes and lead to higher high school graduation and college enrollment rates for students.

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Dedication

I would like to dedicate this degree to my parents: Trien Phung and Ngan Tran.

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Section 1: The Problem

Introduction of the Local Problem

The U.S. federal mandate from the No Child Left Behind Act of 2001 established a period of accountability that demanded that public schools document student achievements, explore innovative methods for increasing the students' outcomes, and reduce the achievement gap between the different socioeconomic groups (Dee & Jacob, 2011). To receive federal and state funding, U.S. public school administrators are now asked to provide evidence that certain school programs and activities do contribute to the increase of the students' achievements in meeting the Adequate Yearly Progress (AYP; Dee & Jacob, 2011). Public schools have responded to this federal demand by implementing school programs designed to increase students' academic achievements (Dee & Jacob, 2011). Post-NCLB, program was generally implemented without formal evaluation methods that lacked a structure for improvement and sustainability (Taplin, Clark, Collins, & Colby, 2013). Program evaluation fills this practice gap by supplementing a research component to the school practice (McNamara, 2015).

School program evaluations are designed to provide a structure for school administrators to examine the local problem, provide a solution, and utilize research to make the appropriate program adjustments. One of the goals of school program evaluations is establishing a cycle of inquiry to effectively enhance students' academic outcomes and close student achievement gaps.

In the subsequent sections, first, I describe the local problem that prompted the study, discuss the gap in practice, and situate the problem within the larger educational situation. Second, I provide a justification for the local problem by presenting the supporting data and narratives from the personal communications by the local school administrators, as well as presenting the purpose of the study. Third, I define any special terms associated with the problem and the research project. Fourth, I present the significance of the study problem and describe how learning about this problem might be useful to the local education setting. Fifth, I state the research questions along with the null and alternative hypotheses. Sixth, I review the literature that would address the local problem by identifying the theoretical foundation and presenting a review of the broader problem. Seventh, I discuss the implications for the possible project directions and deliverable.

Definition of the Problem

At the time of this study, Local High School (pseudonym) enrolled a high rate of the socioeconomically disadvantaged students who struggled to obtain the standard high school diploma in four years designated to complete secondary education (Sanchez, 2014). Students who failed more than two courses in the first quarter in Grade 9 were identified as at-risk and required the supplemental supports (E. Gemar, personal communication, March 16th, 2015). To resolve the local issue, Local High School established a partnership with the South County Cal-SOAP program and implemented a Precollege Intervention Program in 2014 (Sanchez, 2014); however, after one academic

school year, the program had not been formally evaluated prior to this study. As a result, this partnership program lacked a structure for supports and sustainment (E. Gemar, personal communication, March 16th, 2015). As a result, the extent to which the program impacted or did not impact the participants' academic outcomes was unknown.

In the 2013-2014 school year, 62.70% of Local High School's student body consisted of the socioeconomically disadvantaged students, of which 11.30% failed to graduate—significantly higher than the 2.16% of who identified as White and failed to graduate (Sanchez, 2014). At Local High School, students need to earn a cumulative total of 220 credits in order to graduate (Local High School, 2015). Students who failed more than two courses in their first semester are 10 or more credits deficient according to the Local High School graduation requirement, which has the potential to significantly hinder their ability to earn a high school diploma on time and their subsequent chances of attending college.

Students enrolled in the Precollege Intervention Program at Local High School receive supplemental academic supports compared to previous offerings (E. Gemar, personal communication, March 16th, 2015). At the end of the 2014-2015 school year, program participants were offered to enroll in a six-week summer school program; however, the maximum number credits that students could gain by completing summer school at the Local High School was five (A. Flores, personal communication, October 13, 2014), equivalent to one normal course. This is problematic because it is insufficient to overcome the deficit of failing two courses in a student's first semester within a single

year, making it difficult for these students to meet their high school diploma requirements on schedule. Without a standard high school diploma or the equivalent, students are unable to enroll in a college. As a result, an effective Precollege Intervention Program should be designed to assist its participants' struggle to obtain sufficient high school credits for graduation.

According to the California Student Aid Commission (2015), the purpose of the state-funded Precollege Intervention Program is to close the student achievement gap, increase graduation rates, and provide higher education access to a group of socioeconomically disadvantaged students. Specific targets of the program include children of low-income families, first generation students (those who will be the first in their families to attend college), and students who struggle academically. The Local High School Principal and the Program Academic Coordinator selected 57 socioeconomically disadvantaged students who failed at least two or more courses during the first quarter of high school to enroll in the Precollege Intervention Program in the 2014-2015 school year. The partnership and the establishment of the Precollege Intervention Program were designed to provide a solution to the Local High School's challenge with the low rates of graduation and college enrollment for the socioeconomically disadvantaged students.

The Precollege Intervention Program was designed to create both immediate and long-term impacts. First, program participants can earn up to 10 high school elective credits that would accumulate toward their high school credits requirement by completing both semesters in the 2014-2015 school year with the letter grades of D- or better.

Second, the Precollege Intervention Program curriculum provides strategies for reading, writing, thinking, and speaking with a collection of grade-level appropriate reading and writing projects, as well as developing student habits, skills, and behavior to use knowledge and skills. The essential intention of this program is to provide the academic foundation for participants' academic achievements.

In addition, the program director coordinated college workshops, motivational speakers, guest speakers from a variety of careers, social services, and law-related educational, as well as organizing four college tours as incentives for reaching the individualized academic goal. Fourth, the academic coordinator served a smaller population of students in counseling a cohort of less than 250 students compared to the regular cohort of 600 students, as well as hosting homework assistance and parent workshops on Saturdays. Fifth, the college-aged students provided collaborative tutorials two times a week and daily after-school. As a result, the program participants could achieve the higher academic outcomes with the combined academic services so that they could graduate from high school and enroll in college.

Upon the completion of their first year, program participants who earned a 2.0 Grade Point Average (GPA) or higher in the program have the option to re-enroll for a second year or enroll in variety elective course offered at the Local High School; otherwise participants' enrollment in the second year is required. Additionally, the cost of the intervention program is subsidized by the California Student Aid Commission; the rest was contributed by Local High School Principal's special fund (E. Gemar, personal

communication, March 16th, 2015). Based on the program design and the logic behind each program activity, participants should gain higher academic outcomes; however, without a formal program evaluation, the Precollege Intervention Program lacked evidence for supports and the information for the future program improvements.

Socioeconomically disadvantaged students in the Western part of United States face significant structural barriers resulting in the lower academic preparedness and achievements, as well as lower high school graduation and college enrollment rates than their counterparts (Chapman, Laird, Ifill, & KewalRamani, 2011; Palardy, 2013; Stebleton & Soria, 2012). These barriers include:

- social segregation in the public school system (Altonji & Mansfield, 2011; Palardy, 2013),
- a lack of the adequate family supports (Duncan & Murnane, 2014), and evidence of the unfair treatments by school administrators on academic placements (Broussard & Joseph, 2012).

Without the necessary academic supports, it is improbable for socioeconomically disadvantaged students to graduate from high school and enroll in college (Palardy, 2013). Therefore, the Local High School set aside its resources to support the socioeconomically disadvantaged students in the form of a Precollege Intervention Program (Sanchez, 2014); however, the program must establish a structure of supports to increase its effectiveness by planning, implementing, and evaluating. It was therefore critical for the Local High School to implement a proper structure of program evaluation

and a research method that would inform practice. Establishing a formal program evaluation is an important step in Local High School resolving the socioeconomic challenges that negatively impact its socioeconomically disadvantaged students' academic achievements.

Rationale

Evidence of the Problem from the Local Level

The local problem identified at Local High School was a lack of a program evaluation to support and sustain the Precollege Intervention Program (E. Gemar, personal communication, March 16th, 2015). The program was specifically implemented in 2014 to support socioeconomically disadvantaged students who were at risk of not graduating from high school and enrolling in college. Because 62.70% of the study site's students were socioeconomically disadvantaged students (Sanchez, 2013), it was critical for Local High School to provide a sustainable solution to the problem by incorporating a research component by having a program evaluation of the Precollege Intervention Program. The importance of implementing a program evaluation to inform others of the program outcomes was underscored by McNamara (2015), who stated that such evaluations provide a structure to support and to sustain a program.

Based on the collaborative email thread, the Local High School principal, counselor, and the program director also concurred in situating the local problem (E. Gemar, personal communication, March 16th, 2015). The program director asserted that the socioeconomically disadvantaged students who were at-risk of not graduating from

high school must be identified early in their high school careers; the Local High School must therefore provide necessary supports to raise their academic achievements and implementing a program evaluation would be a key component in sustaining the program (E. Gemar, personal communication, March 16th, 2015). The school counselor also affirmed that the in-school and outside of school supports were critical in increasing the student outcomes, and a program evaluation structure would enhance the program (A. Flores, personal communication, October 13, 2014).

Based on Sanchez (2014), while the Local High School administrators strongly believed that the Precollege Intervention Program would increase the socioeconomically disadvantaged students' academic outcomes, other teachers and district administrators wondered whether the program had any significant impact. Since shared resources were distributed to the Precollege Intervention Program, it was critical that the program proved its worth of the Local High School's investment and the use of public resources in increasing the participants' academic outcomes. Implementing a program evaluation to determine whether or not the Precollege Intervention Program impacted participants would provide the transparency that was necessary to support and sustain the program. It would also provide a framework and a method of program evaluation for continued program evaluation.

Evidence of the Problem from the Professional Literature

Barriers for the socioeconomically disadvantaged students. Socioeconomic Status (SES) is considered the most robust association with students' academic

achievements; there is a well-documented positive relationship between college enrollment and high SES (Altonji & Mansfield, 2011). The first barrier identified by Palardy (2013) was the social segregation in the U.S. public school system: neighborhood segregation, attendance zones within districts and district boundaries create a structural barrier to integration. Altonji and Mansfield (2011) found that resegregation in the United States within last three decades in the 1980s, 1990s, and 2000s had been more pronounced along the SES lines where neighborhoods have integrated racially, but schools have been increasingly segregated by SES. Second, parents of lower SES households possess inadequate financial resources to provide for their children's education (Duncan & Murnane, 2014). Duncan and Murnane (2014) asserted that parents of low-income families cannot afford to choose where to live and which school to send their children to in order to gain the highest opportunity for academic success, and are unable to help their children with acquiring knowledge and skills beyond the classroom. Third, lower SES students are often perceived by school counselors and administrators to be lacking intellectual ability, and are tracked away from rigorous curriculum options (Broussard & Joseph, 2012). The resulting premature placement in basic level courses reduces students' opportunities for college academic preparedness. Fourth, programs designed by public schools to raise socioeconomically disadvantaged students' academic outcomes are generally implemented without a formal evaluation method lacking a structure for improvement and sustainability (Taplin et al., 2013)

The purpose this study, therefore, was to evaluate the impacts of the Precollege Intervention Program on the academic outcomes of socioeconomically disadvantaged

students. Frechtling, Mark, Rog, Thomas, Frierson, Hood, and Hughes (2010) asserted that a program evaluation produces data measuring the extent in which the program objectives were met; it can therefore be used to make program adjustments, improvements, and document achievements. Program evaluation is a valuable tool for program planning, evaluation, and implementation (Frechtling et al., 2010). The nature of the topic dictated the use of an outcomes evaluation using quantitative data. I specifically evaluated participating students' HSGPA and semester course grades in the core content areas of math, science, English, and social science across two semesters of the 2014-2015 school year.

Definitions

At-risk students: Student who have been identified as at risk of not completing the standard high school diploma.

First Generation: In the context of this study, a term referring to college students whose parents does not possess a college education (Gibbons & Woodside, 2014).

High School Credits: A measure used to determine students' achievement of academic requirements (Long, Conger, & Iatarola, 2012). Credits are awarded when the course is completed.

High School Grade point average (HSGPA): A measure of academic achievement calculated by taking the sum of the grade points earned and dividing by the total amount of credit hours attempted by students (Sanchez & Buddin, 2015)

Intervention: Services provided by public schools to increase the students' academic outcomes (Lizzio & Wilson, 2013).

Low-Income: A term used to refer to families and children whose family income is less than twice the federal poverty threshold (Addy & Wight, 2012).

Off track for graduation: Students who do not earn credits required to earn a high school diploma (Bornsheuer, Polonyi, Andrews, Fore, & Onwuegbuzie, 2011).

On-time graduation: Completing sufficient credits to receive a diploma within the allotted time for graduation (Bornsheuer et al., 2011, p. 13).

Program Evaluation: A systematic method to assess the outcome of a program using either summative or formative data (McNamara, 2015).

Socioeconomically Disadvantaged Student: This study uses the California Department of Education's (2013) definition of a socioeconomically disadvantaged student as "a student neither of whose parents have received a high school diploma or a student who is eligible for the free or reduced-price lunch program, also known as the National School Lunch Program (NSLP)" (p. 1).

Significance of the Problem

The Precollege Intervention Program possessed multiple challenges due to the lack of a formal program evaluation. First, the Program did not establish a formal method to evaluate whether or not the Precollege Intervention Program impacted participants (E. Gemar, personal communication, March 16th, 2015). Second, program administrators did

not possess sufficient data to make the necessary program improvements. The significant contribution of the study was to provide evidence supporting the efficacy of the Precollege Intervention Program and to establish a basis for the future program evaluation necessary for the program improvements. It filled this practice gap by providing a formal program evaluation based on a quantitative design that quantified the impacts of the Precollege Intervention Program on participants.

The results would help school administrators determine whether or not the program participants have met the desired academic goals. Based on Frechtling et al. (2010), program adjustments and improvements to change the status quo could be made with accurate data and an evaluation method, and is considered a critical tool in sustaining a program. Moreover, it established a cycle of inquiry in supporting educational practices with research.

Research Questions

The local problem was identified as a lack of a program evaluation. The five research questions developed for this study are designed to measure the impacts of the Precollege Intervention Program on the participants' academic outcomes in the form of their course grades in the core content areas of English, math, science, and social science, as well as GPAs in the 2014-2015 school year. In particular, a quasi-experimental design comparing the control and the experimental group was utilized to evaluate the difference between the academic outcomes of the two groups. The control group was the Grade 9 socioeconomically disadvantaged students enrolled at the Local High School who failed

at least two courses in the first quarter of the 2014-2015 school year; whereas, the treatment group was the Grade 9 socioeconomically disadvantaged students enrolled in the Precollege Intervention Program who also failed at least two courses in the first quarter of the 2014-2015 school year. The quantitative data gathered would provide a basis for the implementation of a program evaluation; whereas, the outcomes evaluation model would provide three pieces of useful information: 1) information to determine whether or not the participants' academic outcomes have met program goals 2) establish an evaluation format that can be used to evaluate future programs and 3) for administrators to improve the program.

The subsequent research questions and hypotheses were developed for this project:

Question 1. Do math grades measured at the beginning of 9th grade differ from the math grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho1: There is no statistically significant change in math grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha1: There is statistically significant change in math grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 2. Do English grades measured at the beginning of 9th grade differ from the English grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho2: There is no statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha2: There is statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 3. Do science grades measured at the beginning of 9th grade differ from the science grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho3: There is no statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha3: There is statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 4. Do social science grades measured at the beginning of 9th grade differ from the social science grades measured at the completion of 9th grade for students enrolled in the precollege intervention versus the control group?

Ho4: There is no statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha4: There is statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 5. Do participants' GPAs measured at the beginning of 9th grade differ from participants' GPAs measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho5: There is no statistically significant change participants' GPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha5: There is statistically significant change in participants' GPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who

participate in the Precollege Intervention Program compared to students in the control group.

Review of the Literature

The overall goal of this literature review was to justify the study as a worthwhile endeavor in addressing the local problem, as well as to document the broader problem associated with the local problem. To justify the local problem, I present the conceptual propositions and elaborate how the concept associated to the study approach and research questions. Then, I provide a critical review of the broader problem associated with the local problem addressed in the project study.

Conceptual Framework

The conceptual framework guiding this study was the Theory of Change (ToC). James (2011) asserted that ToC emerged from the theories of social change led by Paulo Freire, a Brazilian critical theorist in the 1970s who advocated for the disenfranchised to voice their beliefs. In the 1990's, the Aspen Institute Roundtable on Community Change and ActKnowledge developed the first ToC guidelines for evaluators to articulate the complex programs and lead social change (James, 2011). The notable methodologists of ToC were Peter Rossi, Carol Weiss, Huey Chen, Heléne Clark, and Michael Quinn Patton. In recent years, Doabler, Cary, Kosty, Baker, Fien, and Smolkowski (2014), utilized ToC to evaluate the Response to Intervention (RTI) Model; in particular, Doabler (2014) evaluated a Tier 2 pilot math model for first-graders who were at-risk in math.

The researchers used a pre-post experimental design to evaluation the program's effectiveness.

Taplin, Clark, Collins, and Colby (2013) asserted that ToC is considered a planning and evaluation tool to lead change. ToC outlined the process of change by establishing the causal relationships between program activities, outputs, and outcomes to the long-term goal; it described the specific interventions that would lead to the depicted outcomes (Taplin et al., 2013). Moreover, it is used to guide practitioners in making informed decisions regarding specific strategies and tactics to increase the effectiveness of interventions and evaluation designs. The major assumption of ToC lied in the stakeholders' articulation of the change process in connecting the early, intermediate and long-term outcomes to the proposed interventions.

Lodico, Spaulding, and Voegtle (2010) asserted that program evaluations are conducted for decision-making. The ToC model revealed whether or not the Precollege Intervention Program has addressed what it was intended to and identified its impacts on the participants' academic outcomes. This framework of research was complemented with a quantitative design in addressing the study research questions. In particular, student academic outcomes were measured by students' HSGPA and semester course grades in the core content areas of math, science, English, and social science achieved at the conclusion of the 2014-2015 school year. It provided the summative information of the Precollege Intervention Program outcomes that was critical for educational

stakeholders to make informed decisions and to initiate a change process at the Local High School (E. Gemar, personal communication, October 23rd, 2015).

Review of the Broader Problem

Socioeconomically disadvantaged students have historically been underserved; as a result, it impeded their chances of obtaining the standard high school diploma and having access to college to pursue a better quality of life (Reardon, 2011). In addressing the issue, in 1978, the California Legislature established the Cal-SOAP Program to raise the level of academic achievements among socioeconomically disadvantaged students by providing financial aid while raising awareness of postsecondary education (California Student Aid Commission, 2015). The Precollege Intervention Program was a partnership between the South County Cal-SOAP and the Local High School. It was designed to identify socioeconomically disadvantaged students who were at-risk, provide the necessary interventions, and get the students back on track toward high school graduation. The project study provided an evaluation that could be used to assess the program outcomes. The results based on the program evaluation was beneficial for the program administrators to determine its impacts and recommendations were provided for program improvements. Increasing the academic outcomes of socioeconomically disadvantaged students fulfilled the educational need of the Local High School, the state of California, and in the broader educational context.

The literature review in this section consisted of multiple sections. To provide a background of the broader problem, first, I reviewed the current literature documenting

the struggles of socioeconomically disadvantaged students in earning a high school diploma and enrolling in higher education. Second, I examined the various academic intervention models utilized in public education. Third, I reviewed the current literature on the methods of program evaluation.

In summary, I reviewed a total of 42 significant pieces of literature. It comprised of 10 secondary and 32 primary sources. More specifically, I reviewed a book, one program manual, and 40 academic journal articles from EBSCOhost, Education Research Complete, Google Scholar, Sage Journal, and ProQuest Dissertations. The keywords used to search for relevant literature comprised of ***intervention program***, ***program evaluation***, and ***socioeconomically disadvantaged students***. First, for the keywords ***intervention program***, Google Scholar yielded a total of 675,000 results, EBSCOhost yielded 783 articles, and SAGE Premier yielded 1,694; 13 journal articles were used for this research study. Second, with the keywords ***program evaluation***, ProQuest identified 129 journal articles, SAGE Premier yielded 2,576, and Google Scholar provided 19,100 relevant literatures. In particular, 14 journal articles and one book were found relevant to this study. Third, the keyword string ***socioeconomically disadvantaged students*** was used to search and 13 literatures were found relevance. In particular, Google Scholar yielded 464 results, EBSCOhost yielded 19, Google Scholar yielded 464, and SAGE Premier yielded 13 journal articles.

Socioeconomically Disadvantaged Students and Academic Outcomes

Contextualizing the issue. Sirin (2005) conducted a meta-analysis that reviewed journal articles published between 1990 and 2000 on academic achievement and socioeconomic status (SES) among 101,157 students and 6,871 schools, and identified a medium to a strong correlation between SES and academic achievement. Moreover, Reardon (2011) found that Socioeconomic Composition (SEC) was the most significant predictor of academic outcomes such as attainment and achievement. In particular, in 2012, the Organization for Economic Co-operation and Development (OECD) reported that socioeconomic background had a critical impact on student performance with 15% variation in the United States; additionally, Altonji and Mansfield's (2011) Education Longitudinal Study of 2002 indicated that SEC had substantial impacts on students' high school graduation and college enrollment. The issue was more profound in California where approximately 72% of the student population attended schools comprised of half of the students who were socioeconomically disadvantaged, and 44% attend schools with two-third who were socioeconomically disadvantaged (Ang, 2014).

A historical perspective. Crosnoe and Turley (2011) asserted that a large percentage of the recent children of American immigrants were socioeconomically disadvantaged; in particular, 24% children had low-income parents compared to 15% of children of native-born parents, and 26% have parents without a high school degree compared with 8 percent of native-born parents. Moreover, approximately half of Mexican immigrant children did not have parents with a high school degree; in contrast,

half of the East Asian peers had parents with college degrees; as a result, group differences were correlated with educational outcomes and academic achievements among children of immigrants who make up a large population of socioeconomically disadvantaged students (Crosnoe &Turley, 2011).

A socioeconomic perspective. Crosnoe and Leventhal (2013) argued that the fundamental function of public education would be to manage young people education while serving the public interest; a public school would provide social stability and economic productivity. However, Altonji and Mansfield, 2011 found that public education had generally failed to serve socioeconomically disadvantaged students in providing fewer resources and less rigorous curricula while enforcing stricter disciplinary climates leading to higher personnel turnovers and students dropping out; moreover, socioeconomically disadvantaged students were found to possess lower level of literacy and significantly more negative peer influences.

Lack of resources. Resources provided by public education were critical to supporting students' academic achievements; however, low SEC schools often possessed fewer human, monetary, and physical resources particularly schools in the rural location and inner-city with large student enrollments (Altonji & Mansfield, 2011; Duncan & Murnane, 2014). Socioeconomically disadvantaged students were found to receive instruction from less experienced and lower qualification teachers than their higher socioeconomic peers (Cullen et al., 2013). Particularly in California where students belonged to the bottom income quartile have teachers in math and science with

approximately three years fewer experiences in the students in the top quartile; at the same time, recruiting and retaining high-quality teacher to serve disadvantaged students was extremely difficult (Cullen et al., 2013).

Moreover, spending on enrichment activities was positively correlated with students' educational attainments and academic achievements (Duncan & Murname, 2014). Duncan and Murnane (2014) documented the increased family income inequality in the last 40 years leading to a gap between low and high-income parents' spending on enrichment activities for their children. In particular, children from the higher socioeconomic families were found to engage their children in more developmental activities such as summer camps, family travel, and other learning and enrichment activities (Waldfogel, 2012). Whereas, children from disadvantaged families experienced a "summer learning loss" defined by Waldfogel (2012) as the lack of developmental literacy development socioeconomically disadvantaged students possess in which they lost ground in reading over the summer. Therefore, the summer vacation from school widened the literacy gaps among the children of low and high SEC.

Lack of rigorous school curricula and student aspirations. Several studies have indicated that lower SEC schools have had less rigorous curricula matching with lower students' aspirations than their counterparts (Altonji & Mansfield, 2011; Stebleton & Soria, 2012). Cullen, Levitt, Robertson, and Sadoff (2013) found that public high schools faced a challenging task in providing college-preparatory and nonexperimental

curricula to students with disadvantaged backgrounds because they lacked the requisite skills to succeed and were not motivated.

Stricter disciplinary policies and higher turnovers. Strict disciplinary policies were found associated with the higher involuntary dropout, and low SEC schools would tend to have a higher level of misbehavior, disruption, disorder, safety issue, and disruptions (Altonji & Mansfield, 2011). In particular, the United States was one of the countries with the strongest correlation between schools with a predominantly socioeconomically disadvantaged student population and a negative disciplinary climate at school (Programme for International Student Assessment (PISA) Results from PISA 2012, 2012). Based on the National Center for Education Statistics, Aud et al. (2012) reported that the lowest income quartile faced the high dropout rate that was four times greater than the highest income quartile. Moreover, low SEC schools and minority schools had the tendency in having higher personnel turnover rates due to the lower level of administrative supports teacher received and the disorder school climates (Altonji & Mansfield, 2011).

The lower level of literacy. Waldfogel (2012) acknowledged that there was a significant disparity in literacy skills as children entered school, and the gap widened as they progressed through school. Waldfogel (2012) examined the out-of-school factors contributing to the lower level of literacy development among socioeconomically disadvantaged students and identified two key factors impacting literacy among socioeconomically disadvantaged students. First, parents played a significant role in the

early literacy development through the provision of reading materials, reading with their children, and the verbal interaction contributing the children's vocabulary development. Parents of socioeconomically disadvantaged students were found to less likely to engage their children with such activities (Waldfogel, 2012). Second, children who had parents that spoke a language other than English at home, had less exposure to English leading to the lower level of literacy development.

In a longitudinal study, Han, Lee, and Waldfogel (2012) found that Mexican immigrants had below-average reading level compared to Chinese immigrants who possessed above-average scores. The key factor was the disparity in socioeconomic resources and the lack of English proficiency among Mexican immigrant parents who spoke Spanish at home at a higher frequency than the Chinese immigrants. However, a study by Crosnoe and Turley (2011) that followed children from immigrant families from kindergarten to third grade discovered that Latin American children and parents narrowed the reading and math gaps more rapidly than other groups. These studies highlighted the significant role of in-school factors such as language instruction that were effective in narrowing the literacy gaps for children of immigrants.

Negative peer influences. Peer influences had been associated with a range of school outcomes: achievement, attainment, behaviors, attitudes, misbehavior, educational aspirations, delinquency, and drug use (Altonji & Mansfield, 2011), in particular, students in the low SEC schools transmitted lower levels of educational values and academic skills; as a result, students with low SEC received lower level of educational

attainment and outcomes. Moreover, students who attended high SEC schools were 68% more likely to enroll at a 4-year college than their peers who attend the low SEC schools (Palardy, 2013).

Interventions

Academic intervention programs. School intervention programs were generally designed to help students with completing missing assignments, providing additional tutorial and extra time on assignments, building reading and math skills, as well as offering after-school tutorial services (Meador, 2014). School districts would provide an array of interventions program at the elementary level, but these programs would diminish at the secondary level (Meador, 2014). While services declined the task of getting these students who were academically underprepared for college to get back on grade level became more difficult (Barnett, 2011; Wilson, Tanner-Smith, & Lipsey, 2011). There were several notable programs such as the Positive Behavior Support (PBS) program (Tripp, 2011), Bornsheuer, Polonyi, Andrews, Fore and Onwegbuzie's (2011) ninth grade transitional programs, Martinez's (2011) group therapy focusing on students' life, and Cicek (2012) and Walker's (2015) Response to Intervention (RTI), as well as the state-funded precollege programs (California Student Aid Commission, 2015; Peabody, 2012).

Precollege programs. The California Student Aid Commission was established in 1955 by the State Legislature to administer financial aid programs for students residing in California and attending colleges, vocational schools, and universities (California

Student Aid Commission, 2015). Its mission was to provide financial aid as a mean of access for California residents to attain education beyond secondary education. CSAC outreach and awareness programs consisted of the California Student Opportunity and Access Program (Cal-SOAP), California Cash for College, GEAR UP, and various outreach programs in some of colleges in California. In particular, California Cash for College assisted low-income and first-generation college students in the application process in maximizing their financial eligibility. GEAR UP established in 1999 as a program to support middle schools in preparing students for high school and postsecondary education with infrastructure and a network of support from influential adults: counselors, faculty, families, and school leaders.

In 1978, Cal-SOAP was established to provide services in 15 different locations throughout California in raising the achievement levels of at-risk students and in providing access to higher education; it was designed to provide postsecondary access for students who were first in their families to attend college, came from low-income families, and resided in a school or a geographic region with documented low-eligibility or college participation rates (California Student Aid Commission, 2015). To participate in Cal-SOAP, a participant must meet the following criteria: be a California school student, and low-income, or be first in a family to attend college, or reside in a school or geographic region with documented low college-going rates (California Student Aid Commission, 2015). In the 2013-2014 school year, the program served a total of 2,747 students in which 60% were first-generation and low-income, 19% were first-generation only, 15% were low-income only, and 6% of the participants qualified as “regional”;

76% of the participants were students of the local school district (California Student Aid Commission, 2015).

Program Evaluation

Models of program evaluation. Lodico et. al (2010) defined a program as "a set of specific activities designed for an intended purpose with quantifiable goals and objectives" (p. 317). Therefore, a program evaluation is considered an examination of the specific activities to determine their worth and to make recommendations for program refinements (Lodico et al., 2010). Frechtling et al. (2010) asserted that the results of an evaluation should facilitate a course of action.

Based on Lodico et al. (2010), there were mainly four models for program evaluation. The first approach was the objective-based describing the purpose of the evaluation and the information that would be collected for evaluation. It is also referred to as benchmarking and is considered a common method for measuring quantitative goals. Second, the goal-free evaluation approach, in contrast, would not prescribe evaluation objectives and the evaluators would be more interested in examining the unforeseen consequences as a result of the program implementation. Third, the expertise-oriented evaluation approach utilized a content expert serving as a judge generally on a set of criteria. Fourth, the participant-oriented evaluation approach had an emphasis on the participants in which they were involved in the development of the evaluation instrument, a collection of data, and reporting findings.

Formative and summative evaluation. Based on Frechtling et al. (2010), formative evaluation is considered an effective tool and would be implemented at the beginning of the program to gain insight on the implementation and progress; it could be used for improvement. Moreover, it would be used to evaluate the ongoing program activities and would provide information for monitoring. It is conducted by examining how the program is operated, whether or not the program is operated based on the proposed plan, and determined if changes would be needed (Frechtling et al., 2010). Moreover, progress evaluation assessed progress in determining whether the program has met its ultimate goals. Frechtling et al. (2010) asserted that formative evaluation is conducted by benchmarking the program objectives and collecting information on the impact of the program activities on the organization, program curricula, as well as participants at various levels of the intervention. On the other hand, the nature of summative evaluation was in assessing the outcome of a program in measuring to what extent the program reaches its established goals (Frechtling et. al, 2010).

Evaluation process. I used Frechtling et al.'s (2010) which contains six phases involved in the program evaluation process:

> development of a conceptual model of the program and identification of key evaluation points, development of evaluation questions and definition of measurable outcomes, development of an evaluation design, collection of data, analysis of data, provision of information interested audiences. (p. 15)

First, a conceptual framework would provide an understanding of the hypotheses and the existing knowledge. Second, the process of developing evaluation questions and defining measurable outcomes would involve the identification of key stakeholders early on and formulated questions based on the interest of the stakeholders (Frechtling, 2010). Third, in developing an evaluation design, it would be important to determine how it addressed the research questions. Fourth, the development of design involved two methodological approaches: qualitative relating to narratives and quantitative relating to numbers. Fifth, the researcher would collect and analyses data. Sixth, the researcher must be able to formulate the result of the program evaluation and be able to present the evaluation to its intended stakeholders (American Evaluation Association, 2010).

Effective Program Evaluations

Evaluation process. Frechtling et al. (2010) asserted that there were six phases involved in an effective program evaluation process:

> development of a conceptual model of the program and identification of key evaluation points, development of evaluation questions and definition of measurable outcomes, development of an evaluation design, collection of data, analysis of data, provision of information interested audiences. (p. 15)

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in developing an evaluation design, it would be important to determine how it addressed the research questions. Fourth, the development of design involved two methodological approaches: qualitative relating to narratives and quantitative relating to numbers. Fifth, the researcher would collect and analyze data. Sixth, the researcher must be able to formulate the result of the program evaluation and be able to present the evaluation to its intended stakeholders (American Evaluation Association, 2010).

Evaluation Planning and Design

Newcomer, Hatry, and Wholey (2015) asserted that there was a higher demand for systematic data in the public and nonprofit sector for performance evaluation. In particular, program staff are interested in the program performance so they could use the information to learn and improve the program; administrators and executives are concerned with developing the "learning organizations" requiring staff to collect data, evaluate programs, use the information to enhance services, as well as making evidence-based decisions evaluating data from the past program performance (Newcomer, Hatry, & Wholey, 2015, p. 5). Therefore, program evaluation is considered an essential tool for leaders to plan and lead strategically (Kim, 2011). Kim (2011) asserted that program evaluation determined the effect of each program service and would precisely highlight the school feedbacks for program improvements.

The strength of the evaluation is rooted in producing the methodological rigor needed to provide credible findings (Ball, 2011; Newcomer, Hatry, & Wholey, 2015; Robson, 2011). First, it required a valid measure; the measure must accurately assess the

evaluator's intended goals. In choosing a valid measure, evaluators must assess if it was relevant to the process, behavior, or activity being assessed, important to stakeholders, and being used by experts in the field (Newcomer, Hatry, & Wholey, 2015). Second, the evaluation design must reflect the goals and objectives set by the evaluators, and can be accomplished by matching the evaluation design to the research questions. The most common goal for evaluators identified as program improvement, and the effective evaluators plan, design, and implement evaluations that are considered "relevant, responsive, and credible" for growth (Newcomer, Hatry, & Wholey, 2015, p. 26).

Program Evaluation with Quantitative Methods

The following program evaluations utilized quantitative data to evaluate the effectiveness of various educational programs. All studies utilized quantitative design to evaluate respective programs. In particular, Lyons (2013) provided a summative evaluation of a Seminar program to assess the relationship between the participants' program grades and their achievements on WesTEST 2 which comprised of language arts, math, science, and social science from four separate school years in 2009, 2010, 2011, and 2012 and the course grades for the corresponding school years. In analyzing data, Lyons (2013) used a Spearman correlation analysis to determine if there was any relationship between the two variables. The results revealed that in three out of the four years, correlations were statistically significant at the $p<0.01$ level. Therefore, Lyons (2013) concluded that there was a crucial impact of the Seminar program on student growth in academic achievements.

Another program evaluation that utilized quantitative analysis was conducted by Campbell (2013) to evaluate the supplemental education services (SES) program in reading intervention. In particular, Campbell (2013) implemented a pre-and posttest for 1,104 cases of which 516 was part of the control group, and 588 was part of the intervention group. ANOVA tests revealed that the result was not statistically significant. Campbell (2013) concluded that teachers of SES program must be provided with more federal and state supports to increase student reading scores and improve the program outcomes.

The third program evaluation conducted by Chapman (2013) to assess the impact of a middle school summer math remediation program. Chapman (2013) utilized the Criterion-Referenced Competency Test (CRCT) and tested participants in 2012 after fully participated in a 3-week remediation program. A t test was used to assess the difference in test scores by participants as a result of the program. The result of the outcome-based evaluation revealed there was a significant positive change in students' test scores; therefore, Chapman (2013) concluded that the math remediation program implemented at the local school has a potential for positive social impacts.

Implications

The Local High School District Office at the conclusion of the project study received a copy of the program evaluation. Based on the findings, the study may carry major impacts on the program resources and its curricula. The school administrators may decide that the program curricula required modifications to increase student

achievements. They may decide to invest less resource into the Precollege Intervention Program based on the findings. Moreover, school administrators may request additional research be conducted to follow this particular project study.

Project deliverables were commonly referred to the tangible and intangible goods that were produced as a result of the research project. First, the Local High School District would receive an evaluation report as a result of the research project. In particular, it highlighted the purpose of evaluation, criteria, and major academic outcomes; moreover, the report would provide an assessment of how the Precollege Intervention Program addressed the local needs. Second, a major project deliverable was establishing a cycle of research inquiry to support the local educational practice. The results could be used to lead change in the program curricula, teacher accountability of the program delivery, tutorial structure, and school accountability in increasing the graduation rates among socioeconomically disadvantaged students. Third, the results could lead to change in the program curricula and additional resources may be added to the program in preventing socioeconomically disadvantaged students at-risk of not graduating from high school to not fall further behind. Therefore, it was crucial to incorporate research and a method to evaluate program outcomes in supporting and sustaining the Precollege College Intervention program at the Local High School.

Summary

In a school district that served a predominant population of socioeconomically disadvantaged students, the Local High School must address the issue of graduating and

providing higher education access to this group of students. The Precollege Intervention Program was implemented at the Local High School as an effort to increase high school graduation and college enrollment rates for the socioeconomically disadvantaged students who were identified as at-risk of not graduating from high school due to credits deficiency. Since the program was piloted in 2014, it was in its developmental stages in which a program evaluation was needed in providing school administrators a method to assess the program. A program evaluation could be used to make program decisions, to adjust, and to improve program curricula and resources. In particular, outcomes evaluation was the method to gather specific outcome data at the end of a school year and summative findings were presented in a more formal evaluation report. Therefore, implementing a program evaluation for the Precollege Intervention Program incorporated a research component that would support the local education practice. It could be a method that would enhance program effectiveness in graduating more socioeconomically disadvantaged students the Local High School. As a result, this population of students could have higher access and opportunity in postsecondary education and enjoy a better quality of life.

The subsequent sections describe the research method, outline the phases of the project, and assess the impacts of the project leading to social change for the school. In particular, the methodology section describe how data were obtained, how the data were related to the research question, how the data were analyzed upon collection, and provide a summary of the trends of the data and how these apply to the research question. The project section provides a rationale for the project, a literature review of recent scholarly

and academic sources, a time frame of implementation with descriptions of needed resources for completion, and final implications of the project. The conclusions section highlights the project's strengths and limitations with recommendations for improvement, an analysis of the findings and what was learned about the project as well as the researcher involved, a reflection of what was learned, and finally areas of future research that could be utilized to extend research findings for social change.

Section 2: The Methodology

In this research study, I used a quantitative design to address the research questions presented in Section 1 along with an outcomes evaluation to determine the impacts of the Precollege Intervention Program on participants comparing to the nonparticipants as a result of the 2014-2015 school year. Section 2 delineates the research methods utilized to conduct the program evaluation. First, I present my rationale for selecting the design and approach, and how it logically derived from the problem. Second, I describe the setting and sampling procedure, instrumentation and materials for measurement. Third, I outline the data collection method and analysis. Fourth, I explain the study assumptions, limitations, scope, and delimitation, as well as the method of protecting the participant's rights.

Research Design and Approach

The nature of this study is an outcomes evaluation using a quasi-experimental design. The evaluation is based on the participants' academic outcomes in the 2014-2015 school year in the forms of HSGPA and the core content course grades in math, English, science, and social science. The data collected is archival data in the form of private records in which all students' identities are de-identified and was kept by the Local High School District Office. Therefore, it is required to obtain permission from the District Office for access. On June 10, 2015, I met with the Assistant Superintendent of Human Resources who was the District designee for approving any research project; On September 10, 2015, I submitted the research proposal to the Assistant Superintendent of

Human Resources. It was reviewed by the District Cabinet on October 4, 2015 and formally approved by the District Superintendent on October 5, 2015 (Superintendent, personal communication, October, 12th, 2015).

Second, I utilized a quasi-experimental design to determine whether the Precollege Intervention Program had the intended impacts on program participants compared to the nonparticipants. More specifically, I compared the Program impacts on the treatment group versus the control group in a convenient sample of 112 students by collecting their academic outcomes in the first and second semester of the 2014-2015 school year. The control group of 57 participants was composed of socioeconomically disadvantaged Grade 9 students enrolled at Local High School who failed at least two courses in the first quarter; the treatment group of 55 nonparticipants was the socioeconomically disadvantaged Grade 9 students enrolled in the Precollege Intervention Program who also failed at least two courses in the first quarter. The outcomes evaluation was the basis for providing the District Office with an evaluation report, and the quasi-experimental design provided a basis for comparing the students' academic outcomes to evaluate whether or not the Precollege Intervention Program had significant impacts on participants.

Justifications

Program evaluation is considered a tool for the decision-making purposes (Lodico et al., 2010). Lodico et al. (2010) asserted that outcomes-based results should be used by administrators to make the decisions for staffing, finance, program curriculum, as well as

in improving the program by making the right adjustments. Objective-based evaluation is considered a tool utilized to assess the program curricula instead of the individual (Nelson-Royes, 2015). Effective program evaluations provide summative data in a form of feedback offering a snapshot of the program outcomes, and are used to determine whether or not the interventions result in a set of expected outcomes (Lodico et al., 2010). These allow program administrators to assess program effectiveness, make changes to the program curricula, and provide the necessary resources for the program to meet its objectives.

The curricula offered would be grouped into specific goals in which the program success was dependent upon students' attainments of these objectives. Quantitative data quantified the level of impacts that the Precollege Intervention Program had on the students' academic outcomes. Objective ratings of the students' academic outcomes in the core content areas and their GPA were analyzed and evaluated at the end of the academic school year to determine the efficacy of the program. The use of quantitative analysis highlighted the students' academic outcomes from one semester to another.

In regards to the quantitative methods design, a true experimental design could not be constructed because the subjects such as students, classroom, schools, and teachers were not randomly assigned to the program and comparison groups. Instead, a quasi-experimental design was utilized to examine the difference between control and the intervention groups. Based on Creswell (2013), the design would allow a researcher to test the difference between the two groups in responding to the intervention, and enabled

me to control the other variables that were not related to the intervention such as simple maturation and intervening time. However, the design was not experimental design due to the confounding variables or third variables that were extraneous and may have impacted the outcome of the intervention; in particular, participants may have spent more time completing school work outside of school or may have received additional tutoring to increase their academic performances in the 2014-2015 school year.

The assessed Precollege Intervention Program served as the independent variable with two levels: control and intervention. The program participants served as the intervention group; whereas, the other socioeconomically disadvantaged who were at-risk of not graduating from high school not selected to participate in the program served as the control group. In selecting the participants, the Local High School administrators and counselor identified the group of socioeconomically disadvantaged freshmen who were at-risk of not graduating from high school and enrolling in college due to credit deficiencies. All students comprised of 112 socioeconomically disadvantaged grade 9 students who met the selection criteria were offered the opportunity to participate in the Precollege Intervention Program via a school email sent by the Local High School counselor. The final decision in participating in the Precollege Intervention Program came from the student.

The dependent variable was the overall students' academic achievements measured by HSGPA and semester course grades after the intervention in semester one and semester two of the 2014-2015 school year, in the core content areas of math,

science, English, and social science following the intervention. The students' academic outcomes in the core content areas and their GPAs were analyzed and evaluated at the end of the academic school years to determine the efficacy of the program. The quantitative analysis highlighted the difference in the students' outcomes from one semester to another.

In theory, a qualitative or mixed methods could also be used to evaluate the Precollege Intervention Program. Qualitative research methods could provide rich data for analysis. In particular, the in-depth narratives from the Local High School administrators, counselors, teachers, tutors, and students could be collected to record attitudes, feelings, and behaviors particular to the Precollege Intervention Program. According to Creswell (2013), qualitative methods could provide additional data to explain or to explore the quantitative data. Other quantitative methods such as correlational research methods could evaluate the correlation between participants of the Precollege Intervention Program with academic grades achievements compared to the non-participants. However, the program administrators explicitly stated that they were interested in exploring the impacts of the program as a result of the Precollege Intervention Program to make program decisions (E. Gemar, personal communication, March 16th, 2015). I chose to do so because designing a research study that met the needs of the local administrators was critical for future collaborations.

From the Problem to the Design

The lack of a program evaluation of the Precollege Intervention Program was the local problem. The program evaluation accompanied with a quantitative design would address the practice gap at the Local High School. Moreover, gaining an understanding of the participants' academic outcomes was critical in evaluating the program efficacy in preparing and assisting socioeconomically disadvantaged students who was identified as at-risk students of not graduating and enrolling in college.

Program Goals

The Cal-SOAP South County program director informed me of two primary goals (E. Gemar, personal communication, March 16th, 2015). The first objective of the Precollege Intervention Program was to increase the participants' academic achievements in the 2014-2015 school year in core content areas: English, math, science, and social science. The second objective was to increase participants' overall GPAs from the first semester to the second in the 2014-2015 school year.

Letter grading at the study site was based on a criterion-referenced grading system. Based on the U.S. Department of Education, International Affairs Office (2015), the criterion-referenced system was used when there was an established agreement by the faculty members as a standard of performance. Every letter grade was recorded to numeric values. Participants who received an A+, A, A- gained 4.0 points, B+, B, B- with 3.0 points, C+, C, C- with 2.0 points, D+, D, D- with 1.0 point, and F with 0.0 point. The range of the interval would be from 0.0 to 4.0-grade points. GPAs were calculated by

taking the average of the sum of the grade points of all the courses completed in a semester. Table 1 shows the conversion from letter grade to percent grade and to grade point.

Table 1

Letter Grade, Percent Grade, and Grade Point

Letter Grade	% Grade	Grade Point
A+	97-100	4.0
A	93-96	4.0
A-	90-92	4.0
B+	87-89	3.0
B	83-86	3.0
B-	80-82	3.0
C+	77-79	2.0
C	73-76	2.0
C-	70-72	2.0
D+	67-69	1.0
D	63-66	1.0
D-	60-62	1.0
F	Below 59	0.0

The Overall Evaluation Goals

There were two goals identified for the program evaluation. The first goal was to provide useful information for program administrators to make changes to the current program. The second goal was to deliver a program evaluation method for continued program evaluation and decisions in the future.

Description of the Setting and Sample

The Population

The study site, Local High School, is located in a California school district that served more than 11,000 K-12 students at the time of this study. In the 2014-2015 school year, Local High School was one of three high schools in the district, and enrolled approximately 1,400 students; 62.70% of the school's student body was identified as socioeconomically disadvantaged (Sanchez, 2014). The study participants were recruited from a population of 112 Grade 9 socioeconomically disadvantaged students who had failed at least two or more courses in the first quarter of the 2014-2015 school year (E. Gemar, personal communication, March 16th, 2015).

Sampling Strategy and the Sample Size

Creswell (2013) asserted that the sample could be valuable information in addressing the research questions and hypotheses. In this study, convenience sampling was used, because the participants were accessible and inclined to be studied (Creswell, 2013, p. 145). In particular, at the beginning of the 2014-2015 school year, the Local

High School counselor recruited the 112 socioeconomically disadvantaged freshmen who failed at least two courses in the first quarter of the 2014-2015 academic year via an email and phone outreaches (A. Flores, personal communication, October 13, 2014). Students were given a choice to enroll in the Precollege Intervention Program or elect other elective courses: Auto Mechanic, Drafting, Beginning Photography, Digital Design, Advanced Photography, Digital Design, Culinary Arts, and Woodworking (Local High School, 2015). Fifty-seven students agreed to participate and enrolled in the Precollege Intervention Program; this group served as the intervention group for the study, and the other 55 students were assigned to the control group. At the end of the 2014-2015 school year, four students transferred to a different school (A. Flores, personal communication, October 13, 2014).

A Power Analysis

A power analysis was used to measure the sampling effect. Creswell (2013) indicated that a power analysis formula for experiments based on Cohen's (1977), Lipsey's (1990), and Murphy and Myors' (1998) took into account a confidence in statistical test and sampling error measuring the significance of the sample size (Creswell, 2013). The Power Analysis calculated by SPSS revealed a Type II Error. This meant that there was insufficient power to uncover an effect if indeed one was there. In particular, when *t* test power was running with the two independent sample groups, two-tails, effect size of 0.5, and sample sizes of 55 and 53, the Power was determined by SPSS to be 73%; this value was under the normally accepted power value of 80%.

Therefore, there would be a lack of the probability to reject the hypothesis tested when the alternative hypothesis was true (Creswell, 2013).

Eligibility Criteria

In order to be eligible to participate in the Precollege Intervention Program, the Local High School student must be verified by the Local High School administrators as meeting the definition of socioeconomically disadvantaged defined used the California Department of Education (2013): "a student neither of whose parents have received a high school diploma or a student who is eligible for the free or reduced-price lunch program, also known as the National School Lunch Program (NSLP)" (p. 1). Moreover, the student must be enrolled in their first year at the Local High School and received failing grades in two or more courses their first quarter of the 2014-2015 school year. This population of students was considered by the Local High School principal as highly at-risk of not graduating from high school and enrolling in college (E. Gemar, personal communication, March 16th, 2015). This population served as the intervention and control groups for the study. On the other hand, any socioeconomically disadvantaged freshman who received passing grades and did not failed two or more courses at the quarter mark of the 2014-2015 school year did not qualify as prospective subjects for the research study.

Recruitment of Participants

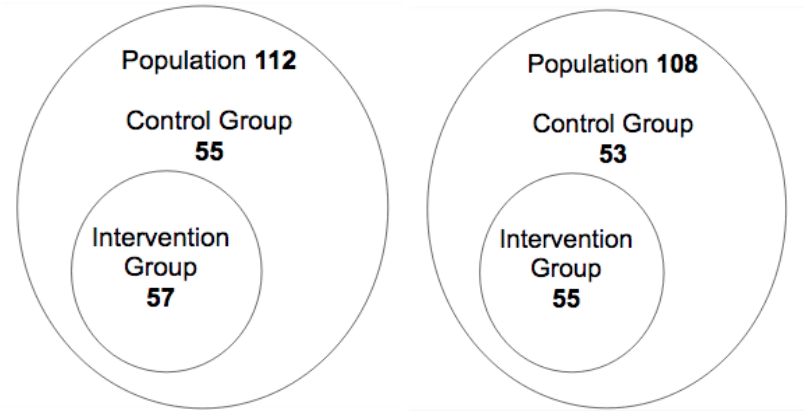
In 2014, the Cal-SOAP counselor was assigned by the Local High School principal to recruit and select the socioeconomically disadvantaged students to participate

in the Precollege Intervention Program (A. Flores, personal communication, October 10th, 2014). Based on Flores (2014), the Cal-SOAP counselor compiled the quarterly course grades report from the school database system Aeries and filtered the population of freshmen who failed two or more courses during the first quarter of the 2014-2015 school year; then, the students who met the California Student Aid Commission's admission criteria as socioeconomically disadvantaged students were contacted for recruitment (California Student Aid Commission, 2015). First, the Cal-SOAP counselor sent an email, called, and met with qualifying candidates to offer the program (A. Flores, personal communication, October 10th, 2014). Second, students who agreed to participate in the Precollege Intervention Program were invited to meet with the Cal-SOAP counselor to be inducted into the program (A. Flores, personal communication, October 10th, 2014). Third, based on the students' scheduling availability, each participant was assigned to one of the four sections of the Precollege Intervention Program corresponding to the school schedule (A. Flores, personal communication, October 10th, 2014). Each course comprised of 12 to 17 participants; each participant passing with letter "D-" or better would receive a cumulative of 10-semester elective credits toward graduation by the end of the 2014-2015 school year. The Precollege Intervention Program officially started with 57 participants after the mark of the first quarter of the 2014-2015 school year on October 20, 2014.

Participants

Out of the 57 participants enrolled, 55 completed the Precollege Intervention Program in the 2014-2015 school year; 39 were admitted to the program as children of low-income households and 18 as first in family to attend college in which all participants were qualified based on the Cal-SOAP admission criteria as socioeconomically disadvantaged students; out of the two participants who did not complete the program, one was assigned to Special Education and the other moved to a different school (E. Gemar, personal communication, March 16th, 2015). The sample consisted of 29 females and 26 males' ages from 14 to 15. Additionally, all participants received failing grades for at least two or more courses in the first quarter of the 2014-2015 school year which were at-risk of not graduating from high school and enrolling in college.

Figure 1. A graphical depiction of the pre- and postsample sizes of participants and nonparticipants



Instrumentation and Materials

In the subsequent section, I describe the data collection tools and the basis for the use of course grades and HSGPA to answer the five research questions in the study, as well as explaining the concepts measured by the instrument. Moreover, I depict how scores were calculated, their meaning, including an explanation of the data used to measure each variable, along with providing processes for the assessment of reliability and validity of the instrument. I also explain where the raw data were obtained, the data collection process and the data required to address the research questions. Last, I present the procedure for gaining access to the archival data, the nature of the scale for each variable, and explain the descriptive and inferential analyses to be used in the study to address each research question.

The Instrument

The data collected were archival and kept in the Local High School database, Aeries, a student information software created by Eagles Software that was designed to support the K-12 public education in California (Aeries, 2015). The Local High School District utilized Aeries at the beginning of the 2013-2014 school year to store all student records such as the participants' semester course grades in the core content areas and HSGPA in the 2014-2015 academic school year (Local High School, 2015). Based on Creswell, (2012, p. 154-155), this school records were sufficient in measuring the participant's performance. Aeries served as a legal student database by the public school districts in California since 1995 (Aeries, 2015).

Concepts Measured by the Instrument

Students' HSGPA and semester course grades in the core content areas of math, science, English, and social science measured the participant's academic outcomes; it has been utilized in educational research to forecast college academic performance (Belfield & Crosta, 2012; Nagaishi & Slade, 2012; Radunzel & Noble, 2012b; Sawyer, 2013; Westrick, Le, Robbins, Radunzel, & Schmidt, 2015). Students at the Local High School are also required to receive passing course grades in order to graduate. In particular, if participants in the study received the higher course grades in the core content areas and HSGPA in the second semester of the 2014-2015 school year, the researcher could infer that the Precollege Intervention Program positively impacted students' academic outcomes, increased their chance of graduating from high school, and improved their ability to perform in college. The opposite could be inferred if participants did not receive higher course grades in the core content areas and HSGPA.

Calculation of the Scores and Explanation of the Data

Course grades in the core content areas and HSGPA were the two dependent variables measured in the study. Scores were calculated in accordance to the Local High School grading policy. In particular, participants were awarded 4.0 points for every A+, A, A- letter grade, 3.0 points for every B+, B, B-, 2.0 points for every C+, C, C-, 1.0 for every D+, D, D-, and 0.0 for every F. The Local High School did not distinguish grade points between letter grades with pluses or minuses. Participants' semester HSGPA were measured by taking the sum of their semester grade points and divide it by the total

number of courses students completed in a semester. The higher grade points for each core course and semester GPAs indicated the higher academic outcomes achieved by the program participants.

Reliability and Validity of the Instrument

Creswell (2013) asserted that instrument is considered reliable when the scores were stable and consistent; moreover, the instrument is considered valid when the degree in which the test interpretation matches its proposed uses (p. 157). Various research supported the use of course grades and HSGPA as reference-criterion frequently used as outcomes in educational research; HSGPA have been linked with more distal outcomes like performance or entrance into college. In particular, Belfield and Crosta (2012), Nagaishi and Slade (2012), Radunzel and Noble (2012b), Sawyer (2013), Westrick, Le, Robbins, Radunzel, and Schmidt (2015) asserted that HSGPA has shown the strong predictive validity of HSGPA in forecasting college academic performance.

In a meta-analysis that evaluated the correlation of HSGPA, ACT Composite scores, and SES with academic performance and persistence, Westrick et al. (2015), found that ACT Composite scores and HSGPA were highly correlated with 1st-year academic performance; hence, the longitudinal study indicated that the two variables were both valid predictors of college academic achievements. Moreover, in a statewide community college system that examined student-level data, Belfield and Crosta (2012) examined the validity of placement tests and course grades in predicting college performance using two quantitative and literacy tests; it was found that placement tests

yielded positive but weak association with college GPA and earned credits. On the other hand, HSGPA had a strong association with college GPA and credit accumulation. According to Belfield and Crosta (2012), students' college GPAs were 0.6 credits below their HSGPA, and a student who possessed one HSGPA higher would accumulate four extra credits per semester.

In regards to the reliability of HSGPA, Nagaishi and Slade (2012) found that the unweighted HSGPA were statistically significant predictors of college GPA in which it was a more reliable predictor than weighted GPAs. Nagaishi and Slade (2012) defined unweighted GPAs as a calculation of GPAs based on a maximum of a 4.0 grade points scale; on the other hand, weighted GPAs awarded an extra grade point for students completing college-level courses: Advanced Placement (AP) and International Baccalaureate (IB). Based on the previous studies, course grades and unweighted HSGPA was valid and reliable instrument in predicting students' college performances.

The Local High School database, Aries would provide sufficient data to answer the research questions and for the research to complete the evaluation report. The following data were collected from the 2014-2015 school year: semester course grades and GPAs, as well as the demographics information such as age, gender, and socioeconomically disadvantaged identification. Moreover, participants would not complete a multi-item or single-item instrument.

In seeking the IRB's approval at Walden University, raw data were requested by the researcher from the Local High School District Office. Raw data were available via

Aeries and would be transferred to an excel spreadsheet. The District would de-identify the data in which the students' identities were replaced with numerical identities before forwarding to the researcher. The data was utilized to compare the participant's pre and post course grades and HSGPA. The linking information that matched the participants' school identification and participants' names were forwarded to the Local High School District Office. The sole holder of the students' identities was the Assistant Superintendent of Human Resources. The students' data were exported from Aeries onto an email attachment in the form of Microsoft Excel Spreadsheet and were transferred into the Statistical Package for the Social Sciences (SPSS) software for analysis.

Data Collection and Analysis

Data Collection

The following research questions, as well as the null and alternative hypotheses were developed for this research project:

Question 1. Do math grades measured at the beginning of 9th grade differ from the math grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho1: There is no statistically significant change in math grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha1: There is statistically significant change in math grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 2. Do English grades measured at the beginning of 9th grade differ from the English grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho2: There is no statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha2: There is statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 3. Do science grades measured at the beginning of 9th grade differ from the science grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho3: There is no statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha3: There is statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 4. Do social science grades measured at the beginning of 9th grade differ from the social science grades measured at the completion of 9th grade for students enrolled in the precollege intervention versus the control group?

Ho4: There is no statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha4: There is statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Question 5. Do participants' GPAs measured at the beginning of 9th grade differ from participants' GPAs measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho5: There is no statistically significant change participants' GPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who

participate in the Precollege Intervention Program compared to students in the control group.

Ha5: There is statistically significant change in participants' GPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

In this research study, I collected quantitative data to address the research questions. The first four research questions were addressed by collecting participants' course grades in English, math, science, and social science for both semesters in the 2014-2015 school year. The fifth research question were addressed by collecting the participant's overall HSGPA for the first and second semesters in the 2014-2015 school year. The data was archived as student record at the Local High School District Office. It was collected by the researcher serving as a secondary purpose in evaluating the impacts of the Precollege Intervention Program.

Description of the Data Collection Process

Upon receiving the Local High School District Office's approval for collecting student data, the researcher worked with the Assistant Superintendent of Human Resources to collect the student data. In particular, student data were collected at the Local High School District office during school hours. Student identifications were de-identified and replaced with numerical codes by the District Office. The Assistant Superintendent of Human Resources was the sole holder of the student identities and the

researcher was not able to identify students participated in the Precollege Intervention Program in the 2014-2015 school year.

Collecting Archival Data

In meeting the Walden University Institutional Review Board's (IRB) approval process, I met with the Assistant Superintendent of Human Resource on June 10, 2015. She gave a verbal agreement to the project study and requested to have the Walden University alternative IRB application Form A and Form B completed prior to granting the district approval to access student and staff information. In particular, I submitted the forms for ethical considerations: letter of permission, data use agreement, confidentiality agreement, and letter of cooperation for secondary analysis when researcher has dual roles. Informational letters and consent forms from students and parents were needed since student data was archival and derived from normal educational practices. A copy of this agreement was also provided in the appendix section.

Level of Measurement

First, the participants' semester course grades in the 2014-2015 school year were measured by the ordinal scale. According to Creswell (2013), ordinal scales utilized categories that imply rank order. In particular, participants who received course grades in the order of A, B, C, D, and F. Each letter grade former is considered higher than the latter. Second, the participants' HSGPA were measured by interval scales. Creswell (2013) asserted that interval scale utilized continuous equal intervals. In this case, every letter grade was assigned to a corresponding scale. Participants who received an A+, A,

A- gained 4.0 points, B+, B, B- with 3.0 points, C+, C, C- with 2.0 points, D+, D, D- with 1.0 point, and F with 0 point. The range of the interval was from 0.0 to 4.0-grade points. GPA was calculated by taking the average of the sum of all grade points.

Descriptive and Inferential Analyses

Before any analyses were conducted, the database was inspected and cleaned by "sort case" by assigning ascending order for each variable from the smallest number to the largest in order to spot out-of-range or misnumbered cases (Creswell, 2012, p. 181). Next, I tested for data normality prior to performing parametric statistics with the visual inspection. The analysis provided a snapshot of participant's course grades and their HSGPA from the beginning to the end of the school year.

In addressing the research questions one through four in this study, descriptive statistics were used to gain insight into the central tendency, variability, and relative stand for both the intervention and the control groups. Based on Creswell (2013), the measures of central tendency summarized data representing a single in a distribution of scores (p. 184); the measures of variability depicted the spread of participants' course grades and GPAs in a normal distribution, and the measures of relative stands described a participant's course grades and HSGPA to a group of scores (Creswell, 2013, p. 216).

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) program. The level of significance was set at .05 to reflect the maximum risk that the researcher was willing to take to determine that was any observed difference between course grades and GPAs were due to chance (Creswell, 2013, p. 188). The independent

samples t tests were conducted to compare change of mean-scores of the control and the intervention groups. In particular, the independent samples t tests measured participant and nonparticipants' means difference of their semester HSGPA and course grades in English, Math, Science, and Social Science of the first semester of the 2014-2015 school year and the second semester. The independent sample t test was used for two reasons. First, it provided a comparison of the change of the mean-scores for the control and intervention groups. Second, it was used to provide data for hypothesis testing. This was to determine if there was a statistical difference between the means of two unrelated groups: intervention and control.

Assumptions, Limitations, Scope and Delimitations

Assumptions

The first assumption made was that the teacher and the program director supervising the Precollege Intervention Program implemented the program curricula consistently. The second assumption was associated with participants in whom they were assumed to be motivated to take advantage of the Precollege Intervention Program to improve their course grades and HSGPA. Third, it was assumed that participants received an equal and consistent level of services from tutors and all the services provided by the Precollege Intervention Program. Fourth, it was also assumed that the researcher remained unbiased in evaluating the Program.

Limitations

There were several potential limitations in evaluating the Precollege Intervention Program. First, since the program was a pilot program and was in its first year, there was a lack of long-term data and the implications of those data to track changes. Second, the program was established without the measurable objectives (E. Gemar, personal communication, March 16th, 2015). It lacked a formal method of evaluation. Third, the participants' mobility such as dropping out of the Local High School, moving schools, and adding to the program after the initial start date could lead to an internal threat of the participants' academic history. In particular, two students transferred to a different school and did not complete the Precollege Intervention Program. Fourth, the study sample lacked the sufficient power size for the researcher to confidently reject or accept the null hypotheses.

Delimitations

The scope of the study covered the knowledge of the Precollege Intervention Program's impacts on the socioeconomically disadvantaged high school grade 9 students in the 2014-2015 school year. It was intended to measure the Program outcomes; it would provide the essential information for school and program administrators to evaluate the Program impacts and to make adjustments. Most importantly, this project study provided an evaluation report for the Local High School administrators to maintain and improve the Precollege Intervention Program in increasing the rates of graduation among

socioeconomically disadvantaged students, providing them with postsecondary education access, and a better quality of life.

The delimitations of the study comprised of the sample, treatment, setting, and instrument. The sample was limited to the Local High School socioeconomically disadvantaged freshmen instead of other grade levels because of the scope of the Precollege Intervention Program. The available treatment was also bounded by the Precollege Intervention Program curricula and the in-school schedule. Moreover, the setting of the study was in a public urban high school in Northern California, and the instrument was conveniently selected because it was readily available and was used by the Local High School District.

Participant Protection

The following measures were taken to protect the participant's rights. First, the researcher did collect any data prior to receiving the approval of the Institutional Review Board (IRB) at Walden University. Second, permission to conduct the study at the Local High School was provided by the Local High School District, along with the clarifications on the data use, and methods that the researcher implemented to protect participant’s confidentiality. Third, since the study solely focused on the collection of archival data, the consent forms were not being required from the participants’ guardians. In particular, the Local High School fully delivered and supervised the implementation within the scope of its standard operations; participants were treated as any other students enrolled at the Local High School**.** Fourth, in order to protect the disclosure of private

information, all identifiers were substituted with a numerical code and all data were kept at the Local High School District Office. The Assistant Superintendent of Human Resource was being the sole holder of the access code in which the researcher did not any knowledge of the identities of the participants. All measures were in compliance with the National Institutes of Health (NIH) guidelines. Moreover, the potential risk for participants in the study were minimal since project study utilized archival data; the participants received treatments in a form of standard instructional practices by the Local High School teacher, tutors, and volunteer presenters. Finally, after five years, the data will be deleted.

To access data, approval from the Local High School District Cabinet was required. The permission was granted on October 5, 2015, to conduct the project study and to collect data on the condition that the Local High School could not be identified, and the students' identities be kept private. The Walden IRB approved the research project and issued the approval number 01-19-16-0291648. Shortly after, I received the de-identified data from the District Program Administrator.

Limitations of the Project Evaluation

Limitations were identified to highlight the potential weakness of the project evaluation. The following were the limitations of the program evaluation.

1. Since the program was a pilot program and was in its first year, there was a lack of long-term data and the implications of those data.

2. The identifications of the students who might have participated in the additional academic activities such as after-school tutoring and reading activities were unknown. Such activities might have influenced the participants' academic outcomes in course grades and HSGPA in the 2014-2015 school year.

3. The participants' mobility such as dropping out of the Local High School, moving schools, and adding to the Program after the initial start date could lead to an internal threat of the participants' academic history. In particular, two participants did not complete the Program and two nonparticipants did not complete the school year at the Local High School.

4. In regards to the data received from the Local High School District Office, not all of participants completed a social science course in the 2014-2015 school year. In particular, out of the 55 students in the intervention group, only two students enrolled in a social science course.

5. There was insufficient Power of the sample study to uncover the effect. This led to a possibility of committing Type II error in which the researcher fails to reject the null hypothesis due to a lack of significant probability.

Data Analysis and Results

The purpose of this program evaluation was to determine whether or not participating in the Precollege Intervention Program impacted the participants' academic outcomes. First, the study compared the differences between the participants' course

grades in the core content areas of math, English, science, and social science, as well as their HSGPA in the first semester of the 2014-2015 school year to the second semester. Second, it compared the academic outcomes between the control and intervention groups in the same year. The independent variable was the students' participation in the Precollege Intervention Program.

The eligibility criteria for participants and nonparticipants was determined as 9th grade socioeconomically disadvantaged students who failed, at least, two courses in the first quarter of the 2014-2015 school year at the Local High School. The socioeconomically disadvantaged identification was administered by the Local High School as having "neither of whose parents have received a high school diploma or a student who is eligible for the free or reduced-price lunch program, also known as the National School Lunch Program (NSLP)". In particular, Figure 1 displayed the pre and post sample of participants and nonparticipants in the project study. In particular, 57 students participated in the Precollege Intervention Program and 55 students were nonparticipants and were assigned to the control group. The academic outcomes of the students who completed both semesters of the 2014-2015 school year by receiving course grades and HSGPA were used for the study; whereas, the students who moved away, transferred out of the program or school, or reclassified in special education were not included in the study. At the conclusion of the 2014-2015 school year, 55 participants remained in the intervention and 53 nonparticipants remained in the control group for the project evaluation and analysis. An independent samples t test was conducted and probability level was set at 0.05 ($p < .05$) to determine if there was a statistically

significant difference in the academic outcomes of the Precollege Intervention Program participants compared to the nonparticipants.

Research Question 1 (RQ1) and Analysis

RQ1: Do math grades measured at the beginning of 9th grade differ from the math grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho1: There is no statistically significant change in math, grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha1: There is statistically significant change in math, grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

The independent samples t tests revealed that the difference in the math mean-score of the intervention group was substantially lower than the control group in the pre and posttests. As displayed in Table 2 below, the math mean-scores of the control group showed a slight increase of 0.32-grade points and the intervention group showed a 0.08 decrease in grade points. Moreover, the intervention group experienced a 36.56% increase and the control group a, 30.77% decrease in mean math scores.

Table 2

Semester Means of the Math HSGPAs, Difference, and Percentage Increase or Decrease

Group	Mean Semester 1 Math HSGPAs	Mean Semester 2 Math HSGPAs	Difference	Percent Increase/Decrease
Control	0.83	1.17	0.32	38.555
Intervention	0.26	0.18	-0.08	-30.77
Difference	-0.57	-0.97		

Additionally, Table 3 below summarized the independent samples t test results to evaluate the differences between the means of two or more change scores. It comprised of the standard deviations, sample sizes, t-values, degrees of freedom, critical value, and the standard error of difference. Moreover, the independent samples t test is measured by subtracting the postscore from the pre-score for each participant, calculate the mean change score for the intervention and control group, then use the independent samples t test to compare the intervention and control groups (Independent Samples t Test - SPSS Tutorials - LibGuides at Kent State University, 2014). The independent samples t test determined that the difference between the means of the math scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($1.7292 > 1.984$), so the means were not significantly different. As a result, the participants' math mean-scores measured at the beginning of 9th grade was not differed from the participants' math mean-scores

measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 3

Semester Math HSGPAs t *test Results for the Control and Intervention Groups*

Value	Semester 1	Semester 2
M	0.3396	0
Variance	0.8824	1.25
SD	0.9394	1.118
n	53	55
t		1.7292
degrees of freedom		107
critical value		1.984

Research Question 2 (RQ2) and Analysis

RQ 2: Do English grades measured at the beginning of 9th grade differ from the English grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho2: There is no statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha2: There is statistically significant change in English grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

The English mean-scores of the control and intervention groups both recorded a slight increase; the control group received an increase of 0.14-grade points measured at 17.72%, and the intervention group recorded a 0.04 increase at 22.22% as displayed in Table 4. The difference in mean-scores between the two groups in semester one was 0.61 and 0.71 in the second semester.

Table 4

Semester Means of the English HSGPAs, Difference, and Percent Increase or Decrease

Group	Mean Semester 1 English HSGPAs	Mean Semester 2 English HSGPAs	Difference	% Increase/Decrease
Control	0.79	0.93	0.14	17.72
Intervention	0.18	0.22	0.04	22.22
Difference	-0.61	-0.71		

The independent samples *t* test displayed in Table 5 determined that the difference between the means of the English scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($0.5826 < 1.99$), so the means were not significantly

different. As a result, the participants' English mean-scores measured at the beginning of 9th grade was not different from the participants' English mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 5

Semester English HSGPAs T-Test Results for the Control and Intervention Groups

Value	Semester 1	Semester 2
M	0.1509	0.027
Variance	1.246	0.8048
SD	1.1162	0.8971
n	53	37
t	0.5826	
degrees of freedom	86	
critical value	1.99	

Research Question 3 (RQ3) and Analysis

RQ3: Do science grades measured at the beginning of 9th grade differ from the science grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho3: There is no statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha3: There is statistically significant change in science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

The science mean-scores of the control and intervention groups both recorded a slight decrease; the control group received a decrease of 0.16-grade points measured at 15.38%, and the intervention group recorded a 0.2 increase at 41.67% as displayed in Table 6. The difference in mean-scores between the two groups in semester one was 0.56 and 0.60 in the second semester.

Table 6

Semester Means of the Science HSGPAs, Difference, and Percentage Increase or Decrease

Group	Mean Semester 1 Science HSGPAs	Mean Semester 2 Science HSGPAs	Difference	% Increase/Decrease
Control	1.04	0.88	-0.16	-15.38
Intervention	0.48	0.28	-0.2	-41.67
Difference	-0.56	-0.60		

As displayed in Table 7, the independent samples t test determined that the difference between the means of the science scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($0.1935 < 2.028$), so the means were not significantly different. As a result, the participants' science mean-scores measured at the beginning of 9th grade was not differed from the participants' science mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 7

Semester Science HSGPAs t *test Results for the Control and Intervention Groups*

Analysis	Semester 1	Semester 2
Mean	-0.1731	-0.2222
Variance	1.1263	0.7712
SD	1.0613	0.8782
N	52	18
T	0.1935	
degrees of freedom	36	
critical value	2.028	

Research Question 4 (RQ4) and Analysis

RQ4: Do social science grades measured at the beginning of 9th grade differ from the social science grades measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho4: There is no statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who

participate in the Precollege Intervention Program compared to students in the control group.

Ha4: There is statistically significant change in social science grades measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

The social science mean-scores of the control and intervention groups both recorded a slight increase; the control group received an increase of 0.4-grade points measured at 33.33%, and the intervention group recorded a 0.3 increase at 60% as displayed in Table 8. The difference in mean-scores between the two groups in semester one was 0.70 and 0.80 in the second semester.

Table 8

Semester Means of the Social Science HSGPAs, Difference, and Percentage Increase or Decrease

Group	Mean Semester 1 Social Science HSGPAs	Mean Semester 2 Social Science HSGPAs	Difference	% Increase/Decrease
Control	1.2	1.6	0.4	33.33
Intervention	0.5	0.8	0.3	60
Difference	-0.7	-0.8		

As displayed in Table 9, the independent samples t test determined that the difference between the means of the social science scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated *t* value was smaller than the critical value (1.1767 > 2.776), so the means were not significantly different. As a result, the participants' social science mean-scores measured at the beginning of 9th grade was not differed from the participants' social science mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 9

Semester Social Science t *test Results for the Control and Intervention Groups*

Analysis	Semester 1	Semester 2
Mean	0.4	1
Variance	1.3	0
SD	1.1402	0
n	5	2
t		-1.1767
degrees of freedom		4
critical value		2.776

Research Question 5 (RQ5) and Analysis

RQ5: Do participants' GPAs measured at the beginning of 9th grade differ from participants' GPAs measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group?

Ho5: There is no statistically significant change in HSGPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Ha5: There is statistically significant change in HSGPAs measured at the beginning of 9th grade and measured at the end of 9th grade for students who participate in the Precollege Intervention Program compared to students in the control group.

Based on the descriptive analysis of the means between the intervention and control groups highlighted in Table 10, there was a slight decrease in the participants' HSGPAs and an increase in the nonparticipants' HSGPA from semester one to semester two in the 2014-2015 school year. The two groups began the school year with the mean difference of 0.12-grade points advantaged the control group. In the second semester, the control group received a mean-score increase of 0.09-grade points; whereas, the intervention group began with the mean-score of 1.13 HSGPAs and received a drop of 0.15 mean-score. The control group received a 7.20% increase in mean-score, and the intervention group received a 13.20% decrease in a mean-score.

Table 10

Semester Means of the Overall HSGPAs, Difference, and Percentage Increase or Decrease

Group	Mean Semester 1 HSGPAs	Mean Semester 2 HSGPAs	Difference	% Increase/ Decrease
Control	1.25	1.34	0.09	7.20
Intervention	1.13	0.98	-0.15	-13.20
Difference	-0.12	-0.36		

As displayed in Table 11, the independent samples t test determined that the difference between the means of the HSGPA scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($1.0617 < 2.365$), so the means were not significantly different. As a result, the participants' HSGPA mean-scores measured at the beginning of 9th grade was not differed from the participants' HSGPA mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 11

Semester HSGPAs T-Test Results for the Control and Intervention Groups

Analysis	Semester 1	Semester 2
M	10.25	9.125
Variance	35.0714	74.6964
SD	5.9221	8.6427
n	8	8
t	1.0617	
degrees of freedom	7	
critical value	2.365	

On the other hand, the result of the Power Analysis displayed in Table 12 below, revealed an elevated risk for Type II Error. This meant that there was insufficient power to uncover an effect if indeed one was there. In particular, when t test power was ran with the two independent sample groups, two-tails, effect size of 0.5, and sample sizes of 55 and 53, the Power was determined by SPSS to be 73%; this value was under the normally accepted power value of 80% Therefore, there was a lack in the probability of rejecting the hypothesis tested when the alternative hypothesis was true (Creswell, 2013).

Table 12

Power Analysis

Value	Participants	Nonparticipants
n	55	53
Tail		2
Effect size		0.5
Significance level		0.05
Critical *t* value		1.983

Summary of Analyses

The Precollege Intervention Program at the Local High School had served over 100 socioeconomically disadvantaged students since 2014. The program was intended to raise the participants' academic outcomes, as well as increasing participants' high school graduation and college enrollment rates. The purpose of this project study, therefore, was to evaluate whether or not the Precollege Intervention Program impacted the participants' academic outcomes. The program evaluation utilized a quantitative design to compare the differences between the pre and post semester course grades in English, math, science, and social science, as well as the participants and nonparticipants' HSGPAs in the 2014-2015 school year. The independent variable was the program participation, and the

independent samples *t* tests were used to measure the means difference and statistical significance where the probability level was set at 0.05 ($p = .05$).

In general, the quantitative results revealed that there was no significant difference in the course grades in the core content of math, English, science, and social science, as well as HSGPAs between participants and nonparticipants as a result of the 2014-2015 Precollege Intervention Program. The program did not meet its intended goal for the 2014-2015 school year; therefore, the intervention did not work. There were several limitations to the research design. First, the program was a pilot program and was in its first year, there was an apparent lack of long-term data and the implications of those data. Second, the identifications of the students who might have participated in the additional academic activities such as after-school tutoring and reading activities were unknown. Such activities might have influenced the participants' academic outcomes in course grades and HSGPA in the 2014-2015 school year.

A third limitation was participants' mobility, which included dropping out of the Local High School, moving schools, and adding to the Program after the initial start date. This limitation could lead to an internal threat of the participants' academic history. In particular, two participants did not complete the Program and two nonparticipants did not complete the school year at the Local High School. Fourth, there was a limitation regarding the sample size; the small sample size resulted in increased risk for Type II error in which I may fail to reject the null hypotheses when indeed it was false because the study did not have enough power to uncover the effect. The subsequent section

provided the project details of the evaluation report of the Precollege Intervention Program. Last, the primary project deliverable was the evaluation reported compiled as an outcome of the results.

Section 3: The Project

In this section, I present description of the proposed project. The Project presented in this section is an evaluation report of Local High School (pseudonym)'s Precollege Intervention Program, based on the findings described in the previous section. First, I explain the purposes of evaluation, criteria, and major outcomes. Second, I explain how The Project would address the local needs. Third, I present the evaluation report.

Description and Goals

Since 2014, the Precollege Intervention Program offered at Local High School (pseudonym) enrolled a total of 100 socioeconomically disadvantaged students who were identified as at-risk of failing to graduate from high school and enrolling in college. The purpose of this project study was to evaluate if participating in the 2014-2015 Precollege Intervention Program at the Local High School resulted in an improved academic outcome for the participants. The evaluation utilized a quasi-experimental design to compare the pre- and post-academic outcomes of 55 participants and 53 nonparticipants as a result of the 2014-2015 school year.

To evaluate the academic outcomes of participants and nonparticipants of the Precollege Intervention Program in the 2014-2015 school year, I collected students' HSGPAs and their semester course grades in the core content areas of math, English, science, and social science. Using descriptive statistical analysis, I compared the mean difference between the control and intervention group. The semester course grades in the core content areas, and HSGPAs served as the dependent variables and participating in

the Precollege Intervention Program served as the independent variable. Moreover, an analysis of the independent samples *t* tests with the probability level set at .05 ($p = .05$) was utilized to determine if there was a statistically significant difference in the academic outcomes of the Precollege Intervention Program participants compared to the nonparticipants.

The results of the quantitative data analysis revealed that participating in the Precollege Intervention Program recorded no significant gain in the participants' academic outcomes compared to the nonparticipant's counterparts. An evaluation report presented in Appendix A described the study purpose, findings, and conclusions, along with the recommendations to enhance the Precollege Intervention Program. This information will be presented to the program administrators to determine the appropriate program adjustments and to establish a direction for the continued future program evaluation.

Rationale of the Project Problem and Genre

In the previous section, the local issue was identified as the lack of a program evaluation of the Precollege Intervention Program at Local High School. Program evaluation is considered an essential tool to determine program efficacy and the evaluation could be used to improve the program. In fulfilling the doctoral project study, an outcome evaluation report was established to determine impacts of the Precollege Intervention Program on participants.

The program evaluation conducted in this study was guided by a conceptual framework based on Earl, Carden, and Smutylo's (2001) definition of outcomes as "changes in the behavior, relationships, activities, or actions of the people, groups, and organizations with which a program works directly", and the focus of a program should be on its contributions to these outcomes (pp. 9-10). Moreover, McNeil (2011) asserted that the outcome evaluation focused on assessing the program results assessing participants' learning and the impacts of learning for stakeholders. ToC grounded the research to determine whether or not the program goals were achieved in providing the Outcomes Framework as the basis for highlighting the intervention that would "lead to the outcomes identified as preconditions for achieving the long-term goal" (Clark et al., 2014). Therefore, conducting an outcome evaluation was most appropriate to measure the potential impact of the program as a result of the project study.

The implementation of the Precollege Intervention Program curriculum was complex and included in-class tutoring, additional advising support, monthly parent workshops, and college tours. As a result, it was difficult to determine which program input impacted the participants' academic outcomes. However, Patton (2011) affirmed that a program evaluation is appropriate for measuring the overall impacts of an intervention program on its participants under four conditions:

1. When stakeholders are interested in learning about the participants' achievements; the emphasis would be on assessing the program effectiveness.

2. When programming context is complex, particularly in determining the cause and effect relationship.

3. When the purpose was providing an evaluation to track behavior changes of participants influenced by an intervention.

4. When an outcome evaluation would address these *actionable questions* with specific evidence for continued program evaluation and decisions in the future (Wilson-Grau, 2015).

I provided an evaluation report as a result of the project study. This provision offered program transparency and the opportunity for the program administrators to make the necessary adjustments to improve the program. As a result, Local High School is expected to benefit from the findings provided in the evaluation report, which can be used by administrators to inform their programmatic decisions in the future. Since the goal of the study was to ensure that the program participants receive the best possible service and increase their academic outcomes, information evaluating the current programs such as this one are valuable in making programmatic decisions including whether changes to the program as necessary in light of the findings presented.

The quantitative results from Section 2 revealed that there was no statistically significant difference between participants and nonparticipants as a result of the 2014-2015 Precollege Intervention Program in terms of course grades in the core content of math, English, science, and social science, and in terms of HSGPAs. The program did not meet its intended goal; therefore, the intervention did not work. However, there was a

limitation in regards to the sample size and low power for the analyses that resulted in elevated risk for Type II error. A Type II error is when the researcher fails to reject the null hypotheses when indeed it should have because the analyses did not have enough power to uncover the effect. In the subsequent section, I present my analysis of ToC in guiding the development of the project study and how conducting the outcome evaluation would address the local needs.

Review of the Literature

This project study focused on evaluating the effectiveness of the Precollege Intervention Program. To produce a comprehensive literature review, I reviewed 26 scholarly articles and books along with a wide variety of search terms including *program evaluation result*, *learning goals*, *collaborative evaluation*, *logic model*, *and stakeholder's engagement*. Databases available at the Walden University Library, including Education Research Complete, Thoreau, Google Scholar, and Sage Journal were utilized to locate relevant literature.

Analysis of Research and Theory About Project Genre

The results of the evaluation report were conceptualized with the logic model and were supported by ToC. In particular, the ToC stages of development and the logic model provided a roadmap to develop the outcomes evaluation of the Precollege Intervention Program. The program evaluation was conducted based on Clark et al.'s (2014) six stages of the ToC map:

1. identifying long-term goals,
2. backwards mapping and connecting the preconditions or requirements necessary to achieve that goal and explaining why these preconditions are necessary sufficient
3. identifying your basic assumptions about the context,
4. identifying the interventions that your initiative will perform to create your desired change,
5. developing indicators to measure your outcomes to assess the performance of the initiative, and
6. writing a narrative to explain the logic of your initiative.

Koehler-Hak (2014) acknowledged the significance of assessing progress toward long-term academic goals; it could be achieved by the general outcome measurement in making the systems-level decision. In the early stages of the Precollege Intervention Program, the program director, the Local High School principal, counselor, and teachers agreed that the long-term goal of the program was to increase the participants' academic outcomes (E. Gemar, personal communication, October 23, 2014). To achieve this goal, the precondition was identified as: at-risk socioeconomically disadvantaged students must attain higher knowledge of the various subject's content areas, understand the appropriate school behavior, complete classroom and homework assignments with accuracy and have a timely submission to receive course credits, and have regular school

attendance. According to Clark et al. (2014), participants must attain the preconditions before the final long-term outcome could be conceived.

In the second stage of ToC, according to Clark et al. (2014), stakeholders must identify a set of early and intermediate steps toward the long-term goal. Jie Yi and Chich-Jen's (2016) survey study of the students' learning goals found that there was a positive effect of multiple goal orientations on learning motivation and behavior. Program goals must be taught explicitly to students to motivate them and encourage positive program participation. In particular, goal setting is considered a critical tool in providing support, motivation, and engagement (Buzza & Dol, 2015; Farsani, Beikmohammadi, & Mohebbi, 2014; Graham, Dennis, Korenich, & Cornell, 2013; Liu, Wang, & Wayne, 2015; Margaryan, Littlejohn, & Milligan, 2013).

Similarly, at the conclusion of the initial Precollege Intervention Program meeting on October 23, 2015, the program director summarized the logical processes leading to the long-term outcome. There were three specific immediate steps based on Gemar (2014). First, participants must attend school to receive instruction and the instructional materials; therefore, the early goal was to motivate students to have regular school attendance. Second, to prevent participants from receiving classroom suspensions and expulsion, participants must possess the appropriate school behavior. Participants must be taught explicitly by the program teacher, administrators, and counselors of the school wide expectations and consequences. Third, to increase participants' course grades and HSGPAs; participants must complete their classwork and homework assignments with

accuracy and timely, understand the content materials, and actively participate in the tutorial sessions offered by the program (E. Gemar, personal communication, October 23, 2014).

The third stage of ToC was to identify the basic assumptions about the context. The process clarified the potential confusion and misunderstanding in the evaluation and operation of the intervention (Clark et al., 2014). The primary assumption identified was that at-risk students could increase their academic outcomes by increasing time spent on completing homework assignments, reading, writing, and math. The secondary assumption was for participants are motivated to improve their grades and increase their academic outcomes (E. Gemar, personal communication, October 23, 2014).

The fourth stage of ToC was to establish the individual component of the intervention program that brought about change. More specifically, it would be the various aspects of the intervention program that explained the explicit actions taken by the stakeholders in achieving the desired outcomes (Chen, 2015). The Precollege Intervention Program, in 2014, provided the precollege curriculum instruction, in-class tutoring, additional advising support, monthly parent workshops, and various college tours. The program activities were intended to increase the participants' academic outcomes.

The fifth stage of ToC was developing performance indicators to measure outcomes. It is designed to measure the effectiveness of the intervention by collecting data on each outcome; each indicator consisted of four parts: population, target,

threshold, and timeline; hence, the four basic performance indicators are "Who is Changing? How many do we expect will succeed? How much is good enough? By when does this outcome need to happen?" (Clark et al., 2014). Based on Chen (2015) recommendations, the program performance indicator was established for the Precollege Intervention Program as "At least 20% of the socioeconomically disadvantaged students who were at-risk in graduating from high school and enrolling college enrolled in the Precollege Intervention Program in the 2014-2015 school year attain a 2.0 GPA or higher as determined at the conclusion of the 2014-2015 school year" (E. Gemar, personal communication, October 23, 2014).

In the sixth stage, instead of summarizing the Precollege Intervention Program in narrative form to explain its logic, the program was presented to the Local High School staff meeting in a PowerPoint presentation (K. Pratt, personal communication, January 9, 2015). The six stages of ToC established by Clark et al. (2014) provided an evaluation framework that was used to evaluate the Precollege Intervention Program. The project study genre as an outcome evaluation was appropriate to address the problem and criteria of ToC to guide the development of the project study.

Analysis of How Research and Theory Supports Project

The evaluation of the Precollege Intervention Program was intended to determine whether or not participation in the program impacted the participants' academic outcomes. An outcome evaluation was selected to answer the following question: Do math, English, science, and social science grades, as well as HSGPAs, measured at the

beginning of 9th grade differ from the math, English, science, and social science grades, as well as HSGPAs measured at the completion of 9th grade for students enrolled in the precollege intervention versus the control group? The independent variable was the program participation. An independent sample t test was used to determine if there was a statistical difference in mean-scores at the beginning of the school year to the end of the school year. The findings from the independent samples *t* test revealed that participating in the Precollege Intervention Program did not significantly impact the participants' academic outcomes measured in HSGPAs and course grades in the core content areas of English, math, science, and social science. The quantitative analysis involved comparing the pre and post mean-scores and the significant differences of the mean-scores of the participants and nonparticipants' course grades and HSGPAs in the 2014-2015 school year.

Funnell and Rogers (2011) asserted that the "Theory of Change is [considered] the foundation for program logic models. When well-developed, they could ensure intellectual rigor for program logic models" (p. 32). Logic models supported all aspects of developing a program: design, planning, monitoring, evaluation, and learning; it "describe[d] planned action and its expected results" (Knowlton & Phillips, 2012, pp. 2-3). Moreover, Knowlton and Phillips (2012) asserted that an evaluation should focus on the outcome elements of a logic model, which is often measured by performance indicators. As a result, the logic model and ToC supported the project study by providing an emphasis on the explicit outcomes, identifying important variables to measure and

enabling more effective use of evaluation resources, and providing a credible reporting framework.

A logic model is defined as a visual representation of a program (McNeil, 2011). It described a relationship between what is planned and what the expected results are, and the connections between program activities and outcomes (Funnell & Rogers, 2011). Funnell and Rogers (2011) identified four elements of the logic model: inputs/resources, program activities, outputs, and outcomes. This project study was designed to evaluate the outcomes of Precollege Intervention Program utilized all four components of the logic model. It provided a logical pathway of the Local High School investments to the activity outputs of the Precollege College Program to meet the short, medium, to the long-term goal which is also the desired program outcome.

The first component consisted of the inputs/resources that would support the program. In particular, resources comprised of the "human, financial, organizational, community, or systems in any combination"; they are considered essential for the implementation of the program activities (Brown, 2012; Funnell & Rogers, 2011). First, regarding the human resources, the Precollege Intervention Program involved teachers, the Local High School administrators, a program director, tutors, academic coordinator and advisors servicing participants. Second, regarding technology, Local High School offered a computer lab with over 30 desktops and the additional 32 Chromebooks for participants. Third, regarding community resources, the program was supported by the social service agencies and community organizations that provided the college and career

workshops. Fourth, regarding state-funded resources, the program was supported by Cal-SOAP, which was established to increase the college enrollment rates of socioeconomically disadvantaged students. Fifth, the financial resources came from the Local High School principal's special fund and supported by the California Student Aid Commission.

The second component of the program logic model involved program activities designed to reach the long-term goal. In regards to the Precollege Intervention Program, program participants would receive the weekly two hours of the precollege curriculum, two hours of tutoring services, and one hour of college and career workshops or guest speakers. Participants would also receive bi-weekly academic and personal counseling sessions with the academic advisors as well as the opportunity to tour the various college campuses in the Bay Area, California in every quarter of the 2014-2015 school year.

The third component of the program logic model consisted of the program outputs; they are identified as the logical results of the program activities: individuals, families, and communities (Bellini, Henry, & Pratt, 2011; Funnell & Rogers, 2011). Program participants, in particular, have gained the most from the program investments. Since 2014, the Precollege Intervention Program had served over 100 socioeconomically disadvantaged students at-risk of not graduating from high school and enrolling in college (K. Pratt, personal communication, December 20th, 2015). Participants enrolled in the program as a high school elective course for at the minimum of one academic school year. At the end of the school year, participants who received a 2.0 HSGPA or higher had

the opportunity to select another elective course at the Local High School; participants continued to receive additional program services. Participants who did not meet the academic HSGPA requirement of a 2.0 would enroll for an additional year. The program was designed to serve participants the first two years of their high school careers.

The fourth component of the program logic model is identified as the outcomes achieved as a result of the program inputs, activities, and outputs. Funnell and Rogers (2011) asserted that the outcome would determine whether or not the program succeeded. The outcomes of the Precollege Intervention Program were determined by Gemar (2014). In particular, the short-term outcomes determined were to raise the participants' school attendance, homework completion rates, organizational ability, workshop attendance rates, and the coursework. Moreover, the medium-term outcomes determined were participants earning a 2.0 or higher semester HSGPA, successfully complete every course with a D or better, and better understand the school expected behavior. Last, the long-term outcome was established to have at least 20% of the participants exit the Precollege Intervention Program elective course at the conclusion of every academic school year.

In summary, the program logic model informed stakeholders whether or not a program succeeded in meeting the program goals. In this project study, the logic model provided a method for program administrators to conceptualize the Precollege Intervention Program, and the ToC was used to ground the research study. Based on the outcome evaluation, the Precollege Intervention Program did not significantly impact the participants' academic outcomes at the end of the 2014-2015 academic school year.

Stakeholders Engagement

An essential element of outcomes evaluation was the stakeholder engagement. Stakeholders should be identified and engaged as a result of the evaluation to build and sustain a program. In particular, Bryson, Patton, and Bowman (2011), and Martens and Wilson (2012) asserted that the stakeholders' identification and analysis could be used to develop, implement, and make use of evaluation's findings; it is defined as "individuals, groups, or organizations that [could] affect or are affected by an evaluation process and/or its findings" (Bryson, Patton, & Bowman, 2011, p. 1). The first type of stakeholders is identified as authoritative personnel such as funders, advisory boards, and policy makers; the second tier stakeholders consisted of staff with direct responsibility for the program: program managers and service staff; third, the program beneficiaries: participants' families and their communities; fourth, nonparticipants who were did not take advantage of the opportunity (Bryson, Patton, & Bowman, 2011). In general, stakeholders are consisted of any individual who participated in the program decision making process or had the desire to obtain information regarding the program and affected by the program evaluation.

Bryson, Patton, and Bowman (2011) identified 12 ways to identify and analyze stakeholders. The first technique involved generating a list of evaluation stakeholders who are impacted or possessed interest in the evaluation, then ranking them based on their significance to the program. Secondly, it required analyzing stakeholders by comparing and contrasting their interests in the program to their interests in the

evaluation. The third step was to compile the power versus interest grids. It could be completed by identifying the subjects who have critical interest but little power, players who have critical interests and significant power, crowd, who have minimal interest, and power, and context setters, who have critical power but little interest. It is considered a critical tool to create stakeholders' buy-in (Moscoso, Chaves, Vidal, & Argilaga, 2013).

The subsequent steps comprised of identifying how stakeholders influence each other, key sources of a stakeholder's' power and clarify their interest with the participation planning matrix, creating stakeholder role plays, completing the evaluation recommendation support versus opposition grids, and fulfilling the evaluation recommendation implementation strategy development grid (Bryson, Patton, & Bowman, 2011, pp. 2-10). Identifying and analyzing stakeholders would increase the technical and people skills for evaluators, building evaluation capacity, and the focus of participants' impacts. Engaging stakeholders is critical in increasing student involvement and building institutional relationships (Chen, 2015; Rodriguez-Campos, 2012).

Moreover, Ariza, Davis, Frye, and Harmsen (2011) asserted that communication among partnerships correlated with highly successful evaluation. Regarding the Precollege Intervention Program, the communication was made frequent between the researcher and the District Office's staff. The outcomes of the program were reported twice a year to the program administrators, and the process of the program evaluation was reported to the District Office for approval to collect and analyze data. Moreover, the District Office and the program administrators would receive copies evaluation report as

a result of this project study. Rather than the traditional, top-down decision-making approach, Chen and Garbe (2011) stressed the need for this type of bottom-up approach which has been utilized intensively in outcome evaluation and is considered stakeholder responsive.

Working with Evaluation Results

Another critical component of outcomes evaluation was for program administrators to effectively share the results and overcome the potential barriers. Based on a survey report of the federal government managers, the United States Government Accountability Office (2013) identified that most managers did not have knowledge of their recent program evaluation, but when identified, the results had helped them make improvements. In particular, 37% of the managers reported that their programs had not been evaluated in the past five years, and 40% claimed that they were unaware of any evaluation. However, of the managers who received the recent program evaluation, 8 to 81% reported that it provided a moderate to a greater extent for them to take action to improve their programs. There were four major categories of managers' actions:

1. 71% reported that evaluations were used for supporting program reforms,
2. 72% developed and revised performance goals,
3. 73% shared what works with colleagues, and
4. 81% implemented changes to improve program performance.

On the other hand, over 75% of the managers reported that evaluations contributed to their understanding of program performance in explaining performance results, increasing understanding about the program, and assessing program effectiveness. Last, only 67% reported that program resources were allocated as a result of the evaluations, and most managers concurred that their evaluations were mostly used for internal purposes.

Additionally, United States Government Accountability Office (2013) found that there were 12 potential barriers hindering the use of program evaluation in their agencies: lack of resources, differences of opinion, results due to other factors, not relevant to decision makers, knowledgeable staff, lack of management commitment, difficulty generalizing findings, difficulty accepting findings, credibility of results, determining how to use, not timely, lack of congressional commitment (p. 12). First, most managers noted that the reduction in the federal spending was the main barrier for them to implement findings; they asserted that it was easier to defend an investment on an intervention if it was cost-effective. Second, approximately one-fourth of the managers believed that the differences in perceptions among program stakeholder were another barrier to using evaluation. Third, nearly 19% reported that it was difficult to distinguish the results produced by the intervention and the results caused by other factors such as the external social, economic, and environment. Fourth, 18% claimed that their program evaluation did not address decision-makers' priority that hindered its use (Government Accountability Office, 2013). Schalock and Thornton (2013) noted that program evaluation must address the needs of the decision-makers to be pragmatically effective.

The United States Government Accountability Office (2014) identified strategies to overcome barriers in implementing evaluation results. First, it was recommended for organizations to hire staff with research and analysis expertise. Approximately two-thirds of the agencies noted that this strategy would improve credibility (United States Government Accountability Office, 2014). Second, these agencies also reported that staff participation in the professional conferences for knowledge sharing was useful in exchanging evaluation tips and leading practices (King, & Stevahn, 2012; Mertens & Wilson, 2012; United States Government Accountability Office, 2014). Third, nine out of 15 agencies reported that the consultation with external experts for support was perceived as very useful for building conceptual and technical capacity to conduct the evaluations (United States Government Accountability Office, 2014).

Other potential barriers associated with the study features reported by the United States Government Accountability Office (2013) were concerns about the credibility of the study results, generalizing the results, obtaining study results in time to be useful, determining how to use evaluation findings to improve the program, lack of staff knowledgeable about interpreting or analyzing program evaluation results, accepting evaluation findings that do not conform to expectations, and lack of ongoing top executive commitment or support for using evaluation to make program or funding decisions. First, to overcome these barriers, the program managers suggested that the study must be conducted rigorously, objectively, and must be able to identify concurring studies to help build confidence. Second, regarding the timeliness of the study, the program managers recommended that the evaluators provide them with the interim

results and changes that they could use immediately, involve stakeholders in planning their evaluation agenda, and assemble a body of evidence on a program to respond to questions about the program. Third, it was noted that evaluators could be diligent in conducting outreach, having effective relationships and trust, providing evaluation training, and developing user-friendly methods of presenting the evaluation results (King & Stevahn, 2012; O'Sullivan, 2012). To engage staff regularly, the evaluators could provide technical assistance and tools for performance monitoring and evaluation, building staff understanding of the logic of evaluation, and improving evaluators' understanding of program and policy issues and information needs. These strategies could be conducted formally and informally.

Project Evaluation Plan

Potential Resources, Existing Supports, Barriers, and Future Direction

The Precollege Intervention Program received the abundant supports from the Local High School and the local community. Regarding the human resources, in the second year of the program, another full-time teacher was hired to serve a dual role of counseling and teaching. Moreover, the program provided two additional sections of the elective course offering to serve both Grade 9 and Grade 10. The program served over 100 students in the 2015-2016 school year; it also received a generous donation from the local philanthropist of 32 Chromebooks (K. Pratt, personal communication, December 20th, 2015). The continued financial, human, and technology supports were tremendous in the second year of the program.

However, the financial resource used to hire another full-time staff was taken away from the tutorial services as well as affecting the fidelity of the program implementation. The tutoring staff diminished from two to three tutors per tutorial session to one to two. The tutorial sessions had been a critical component of the Precollege Intervention Program in which the tutors who were college-aged students provided peer mentorship along with the academic supports. Moreover, although program curriculum was shared among teachers, their instructional delivery could have varied affecting the program fidelity. Program fidelity and the reduced tutorial supports were perceived as the most critical potential barriers to the program (K. Pratt, personal communication, December 20th, 2015).

Implementation and Timetable

The Precollege Intervention Program was conceived from the collaboration between the Local High School administrators and the South County Cal-SOAP Program Director. It was intended to address the local challenge of the high enrollments of the socioeconomically disadvantaged students who were socially promoted from middle school to high school and who struggled at the beginning of their high school careers. After a decade of successfully sending thousands of socioeconomically disadvantaged students to college and having its main office physically headquartered at the Local High School, it is logical to implement a program to address the issue (E. Gemar, personal communication, March 16th, 2015).

Although the program was well conceived, the first group of 57 students started in the 2014-2015 school year without a program teacher in the first month; it was run by a high school substitute teacher (E. Gemar, personal communication, March 16th, 2015). The program director expressed that she recruited three veteran teachers who displayed tremendous potential in teaching the program; however, two candidates were promoted into various school administrative roles, and the last candidate filled the Local High School Activities Director role a month before the start of the program (E. Gemar, personal communication, March 16th, 2015). The Local High School hired a full-time teacher who was novel to the profession which began the full implementation of the Precollege Intervention Program on September 22, 2014.

Roles and Responsibilities

Based on Funnell and Rogers (2011), stakeholders are funders, program staff, and participants. A stakeholder possesses interests in influencing the program outcomes. Regarding the Precollege Intervention Program, the critical stakeholders were program participants, the Local High School teachers, along with program administrators and staff. Their contributions directly impacted the outcomes of the program. First, participants were responsible for fulfilling their school obligations by attending class, completing homework assignments, actively participating in the program activities, and take ownership of their academic endeavors. Second, participants' legal guardians were invited to the monthly parent meetings and workshops. They were responsible for maintaining a positive relationship with the program administrators to monitor and guide

their children's education. Since program participation was voluntary, parental participation in meetings and workshops was below 10% in the 2014-2015 school year (E. Gemar, personal communication, March 16th, 2015). Third, the role of the program administrator was to monitor participants' progress and activities. They served a critical role in providing timely and constructive feedback to enhance the program. Moreover, teachers and counselors' role was for the daily program operations and provide the emotional, motivational, and academic supports.

Project Implications

A comprehensive, summative program evaluation had the ability to measure change at the local level; it also had the potential to provide a wider impact beyond the community level. The possible effects of the Precollege Intervention Program evaluation at local levels and beyond are addressed in this section.

At the Local Level

The Precollege Intervention Program was established as a solution to the local challenge of enrolling socioeconomically disadvantaged students who were at-risk of not graduating from high school and enrolling in college because they were socially promoted from middle school and academically struggled at the beginning of their high school careers. The results of the research project filled a practice gap in providing a program evaluation that helped stakeholders evaluate the program outcomes and possible impacts, as well as providing an evaluation method for the continued program evaluation in the future. First, although the program evaluation was underpowered, program

administrators can partially use the program evaluation as a basis to make decisions. They could invest in more activities that can enhance the program effectiveness or reduce funding. They can also decide to conduct another evaluation of the program with a bigger sample size to more accurately test the efficacy of the intervention. Second, participants can understand the results of their work and how it impacts their academic performances. Third, the legal guardians and parents of the participants can understand whether or not their children participations in the Precollege Intervention Program were a good investment. The results may empower parents and legal guardians to seek for alternatives to the program or additional academic supporting activities for their children in the future. Fourth, the program evaluation can inform other teachers at the Local High School of its progress and understand the local challenge.

The Wider Context Influences

Although the Precollege Intervention Program did not impact the majority of the participants' academic outcomes as a result of the 2014-2015 school year, a few participants exited the program having maintained 2.0 GPA or higher. The results of the Precollege Intervention Program evaluation have the potential of bringing awareness to the Local High School staff and teachers in understanding the challenges that socioeconomically disadvantaged students face at the Local High School. Since the school district enrolls a high percentage of this demographic of the student population, the improved model of this program may result in other high schools in the district to adopt a similar model. Across the United States, socioeconomically disadvantaged

students have encountered the similar challenges in graduating from high school and enrolling in college. As a nation that progresses toward a knowledge economy and demands more highly skilled workers, educating and increase the academic outcomes socioeconomically disadvantaged students not only benefit the individual, it provides the next generation of our labor force. The results of the Precollege Intervention Program evaluation may be used by educational reformers to address the challenge of educating and increasing the academic outcomes of the socioeconomically disadvantaged students who were at-risk.

Summary

The goal of this project study was to evaluate the impacts of the Precollege Intervention Program offered at the Local High School in the 2014-2015 school year and to provide a method of program evaluation for the continued future evaluation. The logic model helped program administrators conceptualize the program model, and the ToC provided a framework that grounds this study. The subsequent section contains a reflection of the program evaluation and my personal doctoral learning experience.

Section 4: Reflections and Conclusions

The results of the Precollege Intervention Program evaluation strengthened the program by providing a method of program evaluation and clarity for program stakeholders. Section 4 of the paper is a reflection of the project's strengths, limitations, and my learning experience in this doctoral journey.

Project Strengths

The Precollege Intervention Program possessed several strengths in addressing the local challenge based on the current literature. The first strength is the utilization of high school GPA (HSGPA) and course grades as a metric with predictive validity, in alignment with Westrick et al. (2015); this allows the program administrators to determine the program outcome by measuring it against the program goal which was to increase the academic outcomes of the at-risk socioeconomically disadvantaged students to help them graduate from high school and enrolling in college. This also aligned with McNeil's (2011) statement that the validity of the program evaluation is dependent upon the validity of the measuring instrument. Second, the study site Local High School (pseudonym) and its District Office utilized the similar metrics, which minimized the potential conflict of different metrics measuring the student academic outcomes. Third, the program evaluation established an evaluation framework for a continued evaluation process after this study completed.

Recommendations for Remediation of Limitations

The project study possessed several critical weaknesses. First, it lacked the longitudinal data to compare the results of the 2014-2015 school year program evaluation with prior years. It is considered critical by Sanchez (2014) for the Precollege Intervention Program to complete another academic school year to compare the outcomes to the first year for decision-making purposes. The data collected in the subsequent years after the initial evaluation is intended track program fidelity and increase the sample size. Second, the identifications of the students who might have participated in the additional academic activities such as after-school tutoring and reading activities could be collected in a student survey. Third, regarding possibility of committing Type II error, I could conduct a similar research method with a large sample size.

Recommendations for Alternative Approaches

At the conclusion of the program evaluation of the Precollege Intervention Program, I recommend several approaches for strengthening future evaluations. First, at the completion of the second school year of the program, evaluators should compare the participants' academic outcomes to the first year. In particular, for participants who completed two years of the program, it is recommended that the evaluator compare their academic outcomes from the first school year to the second. For students who exited the program coursework and selected another elective, the evaluators should compare their academic outcomes between the two school years and determine whether or not their program participations created a long-term impact. For the second year, Grade 9 participants in the 2015-2016 school year's academic outcomes should be compared to

the 2014-2015 Grade 9 participants. Second, it is also important for evaluators to check the fidelity of the implementation. Third, an evaluator should conduct a test of the evaluation with sufficient sample size to have the power needed to test the hypotheses. Fourth, evaluators should also gather the qualitative data by interviewing program participants and other stakeholders to explore their perspectives on the Precollege Intervention Program. This will provide evaluators with in-depth knowledge of how the program affects its stakeholders. The knowledge obtained from these interviews should then be used to improve the various aspects of the program.

Scholarship

The Precollege Intervention Program evaluation was a rigorous learning experience for me. I began with the desire to explore a local challenge that is personal and would fulfill the research component of the doctoral program. I learned that I am passionate about assisting developing students with socioeconomically disadvantaged backgrounds. Fortunately, I was given the opportunity to serve this particular student population and was able to frame a research project that was both personal and professional. I shared the idea with Local High School's Principal, the research committee, and the Program Director, and received overwhelming supports and quick progress through the prospectus stage.

At the proposal stage, designing the project study and the research method was most challenging. I settled on the most feasible design in evaluating the potential resources and access. Gaining the approval from the District Office required the approval

of the Local High School Principal, the Assistant Superintendent of Human Resource, the Superintendent, as well as the District Cabinet. It required time for building and maintaining the necessary relationships to get this approval. As a result, I learned to persevere through every stage of the research process and the development of the project study. I have grown personally and professionally.

Project Development

The process of conducting and developing this project study has aided my evolution as a scholar-practitioner and a project developer in the field of education. In the early stages of the project study, I reflected on a particular challenge in higher education. As a whole, U.S. higher education institutions are currently enrolling a large percentage of students who were academically underprepared (Perin, 2012). I learned that the issue could be addressed at the secondary level by conducting, applying, and implementing a project study at the Local High School. As the main researcher of the project study, I learned to independently conduct, evaluate, and apply research. In gaining the approval from my research committee, the University Research Reviewer (URR), Program Director, and the Chief Academic Officer at Walden University, I learned to be patience and diplomatic to drive change. Every stage of the research process required numerous revisions by learning and applying accurately the project study requirement. Moreover, I learned to work with the Local High School administrators effectively for them to grant their approval for me to conduct my project study and to provide the student record. As a

result, I am more confident in my ability to lead in my professional career and my personal growth as an educator.

Leadership and Change

When asked about change, I am reminded of the teaching of the political and spiritual leader of the Indian Revolution against imperialism, Mahatma Gandhi asserting that "You must be the change you wish to see in the world" (Gandhi, 2008). Change starts with the individual. The doctoral research experience had provided me with the knowledge and ability to lead change at the local level. I developed a structure of program evaluation for the Precollege Intervention Program that was designed to increase the academic outcomes of the socioeconomically disadvantaged students. It provided a foundation for the program sustainability and improvements. Also, I was fortunate to receive tremendous supports from the local administrators and the University research committee to lead change. I learned that the greater number of supports from the program stakeholders, the greater the impact of change. It is critical to lead with humility and passion.

Reflection on the Importance of the Work

In this project study, I have provided an evaluation report for all stakeholders. The results of the evaluation supported the local practice by adding a research component to the Precollege Intervention Program and established a cycle of inquiry by incorporating program planning, implementation, and evaluation at the conclusion of every school year. The program evaluation also equipped the program with a method for the continued

future program evaluation. It fulfilled the research component of the doctoral program and filled a local practice gap. As a result, I learned that the Precollege Intervention Program did not meet its goal of increasing the participants' academic outcomes.

Project's Potential Impact on Social Change

Although the program evaluation revealed that the Precollege Intervention Program did not significantly impact the participants' academic outcomes after one school year, the program evaluation possessed potential in impacting participants, their family, Local High School, and the local community. For program participants and parents, they could learn as a result of the evaluation that their efforts were not sufficient. They had all the opportunities to do so because they have received supports from a team of educators. The community at Local High School recognized their challenges and devoted resources to help them. Teachers, staff, and administrators have gained tremendous experience working with this particular population of students. Their experience would be valuable in developing the future programs. Last, it helped my development as a professional, educator, and a scholar-practitioner. I have learned about my work as a teacher, the student struggles and needs, and applying research to address students' challenges.

The Precollege Intervention Program evaluation results possessed empirical implications. The program started in 2014, had served over 100 students, and was the first program in the School District designed to address the local district issue to enrolling a large number of socioeconomically disadvantaged students. The empirical data based

on the program evaluation might suggest to the program administrators that their investment did not equate to the expected outcomes, therefore, withdraw their investment. On the other hand, the other high schools in the School District facing the similar challenges who are also interested in adopting the similar program could use the results of the evaluation to make their decisions.

Program stakeholders should use the information provided from the program evaluation to improve the program model in modifying practice and applying research. In particular, the next step for program administrators is to re-examine each component of the program and make the necessary adjustments. They should start with interviewing program stakeholders and gaining their insights on which program components to keep and which to delete and possibly adding other activities that can directly impact students' academic outcomes based on the current literature.

Conclusion

The evaluation of the Precollege Intervention Program provided a foundation for change. Based on the results, program administrators could learn from the experience, revisit the problem, utilize the program research, plan, and implement an improved model. Success takes time and a lot of hard work; and, challenges breed character. Program stakeholders must be persistent in the relentless pursuit of providing educational equity, access, and opportunities for the socioeconomically disadvantaged students. Knowing that there is more work to do should fuel leaders with the energy to lead change.

As a teacher harnessing a passion for change and observed first-hand the challenges socioeconomically disadvantaged students face daily, I sometimes feel helpless. The results indicating that the program did not significantly impact the participants' academic outcomes were demoralizing. However, I wake up every day, look into the mirror, and would ask myself, if I do not do this, who will? Then, I would put my teacher's hat on and walk out of the door knowing that I will positively impact one life, one day at a time.

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Appendix A: Evaluation Report

Project Title:

Academic Outcomes of a Precollege Intervention Program

Dates of Project:

October 2014 – June 2015

Date of Report:

May 2016

Section 1: Executive Summary and Introduction

Executive Summary

Program administrators and teachers from the Local High School has been concerned with the high enrollment of the socioeconomically disadvantaged students who were identified as at-risk of not graduating from high school and enrolling in college due to their low academic achievements. The administrators implemented the Precollege Intervention Program to provide equitable access and opportunities for this population of minority students. After the first year, the Program lacked a method of evaluation to assess its efficacy. In applying the logic model, an outcomes evaluation was used to assess whether or not the Precollege Intervention Program impacted the participants' academic outcomes compared to the nonparticipants as a result of the 2014-2015 school year. The stakeholders comprised of program administrators, teachers, tutors, parents, and students. The archival pre/post intervention data was examined. However, the student data was only available for one school year; therefore, the primary limitation was the lack of long-term data and the implications of those data. Additional qualitative research design in the form of staff and student interviews could provide the in-depth understanding of the other variables that might have impacted the participants and nonparticipants' academic achievements.

The findings in this evaluation report include the quantitative confirmation that there was no significant difference between the participants of the Precollege Intervention Program and the nonparticipants in the 2014-2015 school year. However, due to

inadequate of power resulting in a Type II error, the researcher failed to accept an alternative hypothesis. Moreover, due to the low program participation in the first year, more tests could be performed in the subsequent school years to increase the power size.

Introduction

In 2014, the Local High School recruited socioeconomically disadvantaged students (SES) who were socially promoted from middle school by meeting the age requirement and have failed at least two courses in the first quarter of their high school careers to participate in a Precollege Intervention Program. The Local High School Principal and Counselor randomly selected 57 participants identified as at-risk of not graduating from high school and enrolling in college. The program has expanded in the second year to serve over 100 students. Participants enrolled in a high school elective course that provided a precollege curriculum instruction, in-class tutoring, additional advising support, monthly parent workshops, and various college tours. Each activity was design to strengthen participants' academic ability, support their transition to high school, and preparing them for college. After their initial year, participants who received higher than a 2.0 GPA have the option to enroll in another elective course offered at the Local High School and continued to receive the program supports. Participants who did not meet the GPA requirement enrolled in the second year.

While the Precollege Intervention Program has been supported by the Local High School administrators, teachers, staff, and participants, its impact on students' academic achievements was unknown. In this project study, a program evaluation was used to

measure the program impacts on its participants and comparing the results to the control group. More specifically, an outcome evaluation helps stakeholders determine whether or not the program has met its goals in impacting participants. The purpose of this study, therefore, is to determine if the Precollege Intervention Program impacts low SES students at-risk of not graduating from high school and enrolling in college academic outcomes. Moreover, a quantitative study provided a comparison between the participants' academic outcomes at the beginning of Grade 9 and at the end of Grade 9, as well as comparing the control and intervention groups with course grades in the core content areas of math, English, science, and social science and their overall GPAs.

Section 2: Background

The federal mandate of No Child Left Behind in 2001 provided four principles of educational reforms: accountability to guarantee results, flexibility to provide local control for local challenges, research-based reforms to utilize prove methods with proven results, and parental options to give choices for parents and hope for kids (Dee & Jacob, 2011). Dee and Jacob (2011) asserted that NCLB established a period of accountability demanding that public schools document student achievements, explore innovative methods for increasing student outcomes and reduce the achievement gap between different socioeconomic groups. In particular, school administrators are asked to provide evidence that certain school programs and activities increase student achievements to meet the Adequate Yearly Progress (AYP) to receive the federal along with state funding. So, public schools responded to the federal demand by implementing school programs designed to increase students' academic outcomes (Dee & Jacob, 2011). The flexibility aspect of NCLB allowed the local school to address the local challenge in the 2014-2015 school year. In particular, one of the local challenges was the high enrollment of LOW Socioeconomically Disadvantaged Students. More specifically, 62.70% of the students enrolled at the Local High School in 2013-2014 school year were identified as LOW SES.

Socioeconomically disadvantaged students who have historically been underserved resulting in the lower academic achievements (Reardon, 2011). The first barrier identified by Palardy (2013) is the social segregation in the public school system

such as the neighborhood segregation, attendance zones within districts and district boundaries creating a structural barrier to integration. SES is the most robust association with student academic outcomes, and current research has documented a positive relationship between college enrollment and high SES. To make the issue more challenging, resegregation within last three decades has been more pronounced along the socioeconomic status lines where neighborhoods have integrated racially, but schools have been increasingly segregated by SES. Second, Duncan and Murnane (2014) asserted parents of lower SES households possessed inadequate financial resources to provide for their children's education. In particular, parents of low-income families could not afford to choose where to live and which school to send their children to in order to gain the highest opportunity for academic success. In addition, they were unable to help their children acquiring knowledge and skills beyond the classroom. Third, Broussard and Joseph (2012) found that lower SES students were often perceived by school counselors and administrators to be lacking intellectual ability and tracked them away from the rigorous curriculum options. Placement in the basic level courses would reduce their opportunities for college academic preparedness. Finally, Taplin et al. (2013) asserted that programs designed by the public schools to raise Low SES students' academic outcomes are often implemented without a formal evaluation method lacking a structure for improvement and sustainability. In addressing the local challenge and the federal pressure, the Local High School implemented a Precollege Intervention Program; however, little is known of its efficacy due to a lack of a formal evaluation process. Failure to use research could lead to ineffective program implementation and evaluation

results in a situation where students continue to struggle (Walker, Clancy, Tsai, & Cheney, 2013). The Theory of Change (ToC) is the conceptual framework used for this outcomes-based evaluation designed to assess the efficacy of the Local High School's yearlong program.

Section 3: Description of Evaluation Methods

Methodology

The purpose was to evaluate the impact of the Precollege Intervention Program on participants in the 2014-2015 school year; the evaluation utilized the participants' academic outcomes to determine if the Precollege Intervention Program had statistically significant impacts on program participants. In a convenient sampling of 57 participants and 55 nonparticipants, I evaluated the program impacts on program participants versus nonparticipants in a pre-and-posttest by comparing the first to the second semester of the 2014-2015 school year. The control group was the Grade 9 socioeconomically disadvantaged students enrolled at the Local High School who failed at least two courses in the first quarter of the 2014-2015 school year; whereas, the treatment group was the Grade 9 socioeconomically disadvantaged students enrolled in the Precollege Intervention Program who also failed at least two courses in the first quarter of the 2014-2015 school year.

Evaluation Design

The nature of this evaluation was outcomes-based that utilized a quasi-experimental design. All analyses were conducted using the Statistical Package for the Social Sciences (SPSS) program. The level of significance was set at .05 to reflect the maximum risk that the researcher was willing to take to determine that was any observed difference between course grades and GPAs were due to chance (Creswell, 2013, p. 188). The independent samples *t* tests were conducted to compare change of mean-scores of the

control and the intervention groups. In particular, the independent samples *t* tests measured participant and nonparticipants' academic outcomes measured in semester HSGPAs and each of the core subject areas in English, Math, Science, and Social Science of the first semester of the 2014-2015 school year and the second semester. The t test was used for two reasons. First, it provided a comparison of the change of the mean-scores for the control and intervention groups. Second, it was used to provide data for hypothesis testing. This was to determine if there was a statistical difference between the means of two unrelated groups: intervention and control.

Data Collection Instruments Used

The primary instrument used in this study was Aeries, a student information software created by Eagles Software that was designed to support the K-12 public education in California (Aeries, 2015). The Local High School District utilized Aeries at the beginning of the 2013-2014 school year to store all student records such as the participants' semester course grades in the core content areas and HSGPA in the 2014-2015 academic school year (Local High School, 2015). Based on Creswell (2012, p. 154-155), this school records were sufficient in measuring the participant's performance. Aeries served as a legal student database by the public school districts in California since 1995 (Aeries, 2015).

The instrument is considered valid and reliable. In particular, HSGPA had been used as reference-criterion frequently used as outcomes in educational research; it had been linked with more distal outcomes like performance or entrance into college. In

particular, Belfield and Crosta (2012), Nagaishi and Slade (2012), Radunzel and Noble (2012b), Sawyer (2013), Westrick, Le, Robbins, Radunzel, and Schmidt (2015) asserted that HSGPA has shown the strong predictive validity of HSGPA in forecasting college academic performance. In regards to the reliability of HSGPA, Nagaishi and Slade (2012) found that the unweighted HSGPA were statistically significant predictors of college GPA in which it was a more reliable predictor than weighted GPAs. Nagaishi and Slade (2012) defined unweighted GPAs as a calculation of GPAs based on a maximum of a 4.0 grade points scale; on the other hand, weighted GPAs awarded an extra grade point for students completing college-level courses: Advanced Placement (AP) and International Baccalaureate (IB).

Course grades in the core content areas and HSGPA were the two dependent variables measured in the study. Scores were calculated in accordance to the Local High School's2 grading policy. In particular, participants were awarded 4.0 points for every A+, A, A- letter grade, 3.0 points for every B+, B, B-, 2.0 points for every C+, C, C-, 1.0 for every D+, D, D-, and 0.0 for every F.

Data Collection Procedures and Participants

The School District was located in California that served more than 11,000 K-12 students. In the 2014-2015 school year, the high school was one out of three high schools in the district enrolling approximately 1,400 students; 62.70% of the student body was identified as socioeconomically disadvantaged (Sanchez, 2014). A sample was drawn from a population of 112 Grade 9 socioeconomically disadvantaged students who failed

at least two or more courses in the first quarter of the 2014-2015 school year (E. Gemar, personal communication, March 16th, 2015). In this study, I used convenience sampling because the participants were accessible and inclined to be studied (Creswell, 2013, p. 145). In particular, at the beginning of the 2014-2015 school year, the Local High School counselor recruited the 112 socioeconomically disadvantaged freshmen who failed at least two courses in the first quarter of the 2014-2015 academic year via an email and phone outreaches (A. Flores, personal communication, October 13, 2014). Students were given a choice to enroll in the Precollege Intervention Program or elect other elective courses: Auto Mechanic, Drafting, Beginning Photography, Digital Design, Advanced Photography, Digital Design, Culinary Arts, and Woodworking (Local High School, 2015). Fifty-seven students agreed to participate and enrolled in the Precollege Intervention Program; this group served as the intervention group for the study, and the other 55 students were assigned to the control group. At the end of the 2014-2015 school year, four students transferred to a different school (A. Flores, personal communication, October 13, 2014).

Section 4: Discussion of Results

Results, Interpretation, Explanations

As displayed in Table 1 below, the independent samples t tests revealed that the difference in the math mean-score of the intervention group was substantially lower than the control group in the pre- and posttests. In particular, the math mean-scores of the control group showed a slight increase of 0.32-grade points and the intervention group showed a 0.08 decrease in grade points. Moreover, the intervention group experienced a 36.56% increase and the control group posted 30.77% decrease in mean math scores. Second, the English mean-scores of the control and intervention groups both recorded a slight increase; the control group received an increase of 0.14-grade points measured at 17.72%, and the intervention group recorded a 0.04 increase at 22.22% as displayed in Table 4. The difference in mean-scores between the two groups in semester one was 0.61 and 0.71 in the second semester. Third, the science mean-scores of the control and intervention groups both recorded a slight decrease; the control group received a decrease of 0.16-grade points measured at 15.38%, and the intervention group recorded a 0.2 increase at 41.67% as displayed in Table 6. The difference in mean-scores between the two groups in semester one was 0.56 and 0.60 in the second semester. Fourth, the social science mean-scores of the control and intervention groups both recorded a slight increase; the control group received an increase of 0.4-grade points measured at 33.33%, and the intervention group recorded a 0.3 increase at 60% as displayed in Table 8. The difference in mean-scores between the two groups in semester one was 0.70 and 0.80 in

the second semester. Fifth, there was a slight decrease in the participants' HSGPAs and an increase in the nonparticipants' HSGPA from semester one to semester two in the 2014-2015 school year. The two groups began the school year with the mean difference of 0.12-grade points advantaged the control group. In the second semester, the control group received a mean-score increase of 0.09-grade points; whereas, the intervention group began with the mean-score of 1.13 HSGPAs and received a drop of 0.15 mean-score. The control group received a 7.20% increase in mean-score, and the intervention group received a 13.20% decrease in a mean-score.

Table 1

Semester Means Comparison

Group	Sem 1 Math	Sem 2 Math	Sem 1 Eng	Sem 2 Eng	Sem 1 Sci	Sem 2 Sci	Sem 1 Sci	Sem 2 SS	Sem 1 GPA	Sem 2 GPA
Control	0.83	1.17	0.79	0.93	1.04	0.88	1.04	0.88	1.25	1.34
Intervention	0.26	0.18	0.18	0.22	0.48	0.28	0.48	0.28	1.13	0.98
Difference	-0.57	-0.97	-0.61	-0.71	-0.56	-0.60	-0.56	-0.60	-0.12	-0.36

Statistical Significance in the Mean-Scores for Math

On the other hand, Table 2 below summarized the independent samples *t* test results to evaluate the differences between the means of two or more change scores. It comprised of the standard deviations, sample sizes, *t* values, degrees of freedom, critical

value, and the standard error of difference. Moreover, the independent samples *t* test is measured by subtracting the postscore from the pre-score for each participant, calculate the mean change score for the intervention and control group, then use the independent samples t test to compare the intervention and control groups (Independent Samples *t* Test - SPSS Tutorials - LibGuides at Kent State University, 2014). The independent samples t test determined that the difference between the means of the math scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated *t* value was smaller than the critical value ($1.7292 > 1.984$), so the means were not significantly different. As a result, the participants' math mean-scores measured at the beginning of 9th grade was not differed from the participants' math mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 2

Semester Math HSGPAs t *Test Results for the Control and Intervention Groups*

Value	Semester 1	Semester 2
Mean	0.3396	0
Variance	0.8824	1.25
SD	0.9394	1.118
n	53	55
t	1.7292	
degrees of freedom	107	
critical value	1.984	

Statistical Significance in the Mean-Scores for English

The independent samples *t* test displayed in Table 3 determined that the difference between the means of the English scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($0.5826 < 1.99$), so the means were not significantly different. As a result, the participants' English mean-scores measured at the beginning of 9th grade was not different from the participants' English mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 3

Semester English HSGPAs t *Test Results for the Control and Intervention Groups*

Value	Semester 1	Semester 2
M	0.1509	0.027
Variance	1.246	0.8048
SD	1.1162	0.8971
N	53	37
T	0.5826	
degrees of freedom	86	
critical value	1.99	

Statistical Significance in the Mean-Scores for Science

As displayed in Table 4, the independent samples *t* test determined that the difference between the means of the science scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($0.1935 < 2.028$), so the means were not significantly different. As a result, the participants' science mean-scores measured at the beginning of 9th grade was not differed from the participants' science mean-scores measured at the completion of 9th grade for students enrolled in the Precollege

Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 4

Semester Science HSGPAs T-Test Results for the Control and Intervention Groups

Analysis	Semester 1	Semester 2
Mean	-0.1731	-0.2222
Variance	1.1263	0.7712
Stand. Dev.	1.0613	0.8782
n	52	18
t	0.1935	
degrees of freedom	36	
critical value	2.028	

Statistical Significance in the Mean-Scores for Social Science

As displayed in Table 5, the independent samples *t* test determined that the difference between the means of the social science scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value (1.1767 > 2.776), so the means were

not significantly different. As a result, the participants' social science mean-scores measured at the beginning of 9th grade was not differed from the participants' social science mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 5

Semester Social Science t *Test Results for the Control and Intervention Groups*

Analysis	Semester 1	Semester 2
Mean	0.4	1
Variance	1.3	0
SD	1.1402	0
n	5	2
t	-1.1767	
degrees of freedom	4	
critical value	2.776	

Statistical Significance in the Mean-Scores for HSGPAs

As displayed in Table 6, the independent samples t test determined that the difference between the means of the HSGPA scores for the control and the intervention groups were not significantly different at $p < 0.05$. The absolute value of the calculated t-value was smaller than the critical value ($1.0617 < 2.365$), so the means were not significantly different. As a result, the participants' HSGPA mean-scores measured at the beginning of 9th grade was not differed from the participants' HSGPA mean-scores measured at the completion of 9th grade for students enrolled in the Precollege Intervention Program versus the control group in the 2014-2015 school year. Therefore, the null hypothesis was accepted.

Table 6

Semester HSGPAs t *Test Results for the Control and Intervention Groups*

Analysis	Semester 1	Semester 2
M	10.25	9.125
Variance	35.0714	74.6964
SD	5.9221	8.6427
n	8	8
t	1.0617	
degrees of freedom	7	
critical value	2.365	

Power Analysis and Type II Error

On the other hand, the result of the Power Analysis displayed in Table 7 below, revealed a Type II Error. This meant that there was insufficient power to uncover an effect if indeed one was there. In particular, when t test power was ran with the two independent sample groups, two-tails, effect size of 0.5, and sample sizes of 55 and 53, the Power was determined by SPSS to be 73%; this value was under the normally accepted power value of 80% Therefore, there was a lack probability of rejecting the hypothesis tested when the alternative hypothesis was true (Creswell, 2013).

Table 7

Power Analysis

Value	Participants	Nonparticipants
n	55	53
Tail	2	
Effect size	0.5	
Significance level	0.05	
Critical t-value	1.983	

In general, the quantitative results revealed that there was no significant difference in the course grades in the core content of math, English, science, and social science, as well as HSGPAs between participants and nonparticipants as a result of the 2014-2015 Precollege Intervention Program. The program did not meet its intended goal for the 2014-2015 school year, therefore, the intervention did not work. However, there

was a limitation regarding the sample size; it was determined to have a Type II error in which I may fail to reject the null hypotheses when indeed it was fall because the study did not have enough power to uncover the effect.

Section 5: Conclusion

Conclusions

The Precollege Intervention Program evaluation was designed to provide program administrators a method for evaluation where the information could be used to improve the program so that socioeconomically disadvantaged students' better opportunities to graduate from high school and enroll in college. The results of the evaluation indicated that after the 2014-2015 school year, the program did not significantly impact the participants' academic outcomes. Program administrators and stakeholders could use the information to make the necessary adjustments to increase the program effectiveness. It provided program transparency; moreover, program administrators could use the evaluation framework to compare participants' academic outcomes to the subsequent school years to track program progress.

However, the results could discourage stakeholders. In particular, it could dissuade program parents and guardians from enrolling their children into the program or re-enrolling them for another year. They might seek for other in-school services and programs as a substitute. Moreover, teachers and staff could allow the challenge to affect their morale and doubt the effectiveness of their work. However, it is important for program stakeholders to be reminded resolving a long-standing problem of socioeconomically disadvantaged students not achieving in secondary education required persistence and dedications. The results brought light to the local challenge and could provide a better understanding of the issue. Therefore, the topic of socioeconomically

disadvantaged students who were socially promoted from middle school to high school and struggled academically early in their high school careers must be a priority for the Local High School, as well as the District Office, state, and national level. The results of the program evaluation highlighted the issue with the critical analysis of the program impacts of the program participants and nonparticipants' academic outcomes.

Recommendations for Future Research

Immediately following the publication of the evaluation report, other researchers could use the evaluation framework established in this project study to compare the first year program data to the second year and the subsequent years. It is critical to evaluate the program annually to track its progress from year to year. Moreover, qualitative researchers could conduct interviews to gain an in-depth understand of the participants' self-efficacy. This could be an important factor contributing to the participants' academic performance and achievements. In addition to the academic supports provided by the Precollege Intervention Program, there might be other psychological and emotional supports that participants could benefit from. As a result, the continued pragmatic research approach could enhance the program effectiveness in serving the historically underserved socioeconomically disadvantaged students enrolled at the Local High School, as well as students with the similar classification.

Section 6: Summary

Summary of Analyses

For most socioeconomically disadvantaged students, education might be the only mean to obtain a better quality of life. Achieving the higher academic outcomes in secondary school would increase their rates of graduation and college enrollment. Without an effective intervention program, at-risk students who demonstrated low academic achievements may be denied access and opportunities. Based on the statistical analyses in this study, the Precollege Intervention Program did not significantly impact the participants' academic outcomes compared to the nonparticipants, as measured by the students' HSGPA and course grades in the core content areas of math, English, science, and social science; in particular, the difference in their mean-scores was not statistically significant. The Program did not achieve its goals as a result of the 2014-2015 school year.

Recommendations for Using the Evaluation Report

Based on the results of the evaluation, program administrators could use the report to improve the program. First, administrators could engage program stakeholders by explaining the results, sharing what works, increasing understanding of the intervention program and students' needs, and informing the public. In particular, the executive summary of the report could be shared with the public and stakeholders to provide transparency. The other components of the report could be concisely presented in a PowerPoint Presentation to explain the results and informing other stakeholders of the

needs of the socioeconomically disadvantaged students enrolled at the Local High School. It could provide legitimacy and a rationale in establishing and sustaining the program. Second, the results could be a tool to initiate change by redesigning program and performance goals, allocating resources, streamlining program, and supporting budget requests. In particular, the results established a baseline of the participants' academic performance; therefore, program administrators could use this information to set new program and performance goals for the subsequent years. Additionally, administrators could evaluate each component of the program curriculum and allocate resources or streamlining program components to support its growth.