

National Louis University
Digital Commons@NLU

Dissertations

12-2014

Applying Social Return on Investment Analysis to a Large Central Florida County Public School District

David F. Lewis
National-Louis University

Follow this and additional works at: <https://digitalcommons.nl.edu/diss>

Part of the [Educational Administration and Supervision Commons](#), [Educational Leadership Commons](#), and the [Education Economics Commons](#)

Recommended Citation

Lewis, David F, "Applying Social Return on Investment Analysis to a Large Central Florida County Public School District" (2014).
Dissertations. 106.
<https://digitalcommons.nl.edu/diss/106>

This Dissertation - Public Access is brought to you for free and open access by Digital Commons@NLU. It has been accepted for inclusion in Dissertations by an authorized administrator of Digital Commons@NLU. For more information, please contact digitalcommons@nl.edu.

Applying Social Return on Investment Analysis to a Large Central Florida
County Public School District

David F. Lewis

Educational Leadership Doctoral Program

Submitted in partial fulfillment

of the requirements of

Doctor of Education

National-Louis University Graduate School

National College of Education

National Louis University

December 31, 2014

Abstract

All social organizations are faced with basic questions pertaining to the value they add to their community and how effectively and efficiently they do so. These questions are increasingly being directed to public schools and school districts as well relative to the various programming they offer and the results they achieve. By completing all aspects of a Social Return on Investment (SROI) analysis with fidelity, I have established a statistically reliable baseline SROI ratio based on a comparison of inputs (revenues) to outputs (outcomes). This baseline ratio serves as the foundation for subsequent change initiatives that will lead to district-wide improvement efforts and ultimately yield an enhanced SROI for the school district.

Preface

When I served as the Associate Superintendent for Learning in the large central Florida public school district, which is under considering in this project, I was an advocate for efforts to evaluate systematically the performance, particularly the outcomes and impacts, of my district's activities and programming. Given the increasing public demand for accountability, while faced with ever shrinking resources, I believed there was a compelling need for a practical systemic evaluation process. Inspired by its potential, I embarked on a three-year study to explore the applicability of a unique evaluative methodology known as Social Return on Investment (SROI).

The initial year of the study focused on a program evaluation analysis. It represents the efforts of the district to better understand, quantify, and communicate its social and economic impact. Similar to traditional ROI frameworks, the SROI approach defines the impacts of the district on the stakeholders, which include students, parents, staff, and the community at-large, in monetary terms.

This first of a three part dissertation details the approach I took to ascertain the district's SROI through the examination of a variety of studies seeking to quantify the impact of a K-12 education, and in particular, a high school diploma. These types of studies previously focused on comparisons of income, employment, incarceration, and health patterns among high school graduates and non-graduates. To the degree that a dollar value may be assigned to each of the outcomes, I believe school districts, researchers, and policymakers can link public investments in education (inputs primarily funded by tax revenues) to district outputs (e.g. college and career ready high school graduates), and ultimately monetized returns, for example, on public savings on

incarceration and public health, as well as expansion of the tax base through higher employment rates and more jobs.

While I have had numerous experiences in dealing with finance and budgeting issues in my various school leader positions, doing this program evaluation provided a new and different school finance learning opportunity. The approach of considering costs to taxpayers in terms of an investment in teaching and learning and relating such costs to benefits have exceeded anything I have done to date. As a school leader, it increased my sensitivity to the importance of being as efficient and effective as possible in allocating and reallocating funds toward best practices and involving and informing the public in important financial assessment work. I believe such engagement is essential to build community understanding and trust. A foundation of knowledge and confidence in what we are doing with their tax dollars. A basis of trust in the merit of district measures to enhance learning gains for all students. A confidence in the district school system work toward making progress in student achievement, while also working toward increasing the overall SROI in response to the shared values and aspirations of the community with the end of making all learners proficient in the learning goals, which it professes and embraces as crucial for its future.

Table of Contents

Abstract.....	i
Preface	ii
SECTION ONE: INTRODUCTION	1
Purpose.....	1
Rationale	1
Goals	3
Research Questions.....	4
Conclusion	4
SECTION TWO: REVIEW OF LITERATURE	6
Introduction.....	6
Principles of SROI.....	9
Three SROI Methodologies	10
The SROI Process.....	11
Conclusion	14
SECTION THREE: METHODOLOGY	16
Research Design Overview.....	16
Establishing the Scope.....	17
Participants	18
Identification of Key Stakeholders	18
Data Gathering Techniques.....	18
Data Analysis Techniques.....	20
Identifying Inputs and Mapping	20
Identifying Outputs	20
Calculating SROI.....	28
Verification	29
SECTION FOUR: FINDINGS & INTERPRETATION	30
Introduction.....	30
Conclusion	32
Ethical Considerations	32
SECTION FIVE: JUDGMENT & RECOMMENDATIONS.....	34
Recommendations.....	35
Conclusion	36
REFERENCES	37
APPENDIX A. Method of Calculating Incremental Lifetime Earnings	41
APPENDIX B. Method of Calculating the Impact of a High School Graduate	42

List of Figures

Figure 1: Calculation for Adjusted SROI	13
Figure 2: Relationship between Inputs, Outputs and Outcomes	19
Figure 3: Impact Map	20
Figure 4: SROI Ratio Formula	28

List of Tables

Table 1: District 2011-2012 Inputs by FTE.....	22
Table 2: District 2011-2012 Outputs	23
Table 3: District 2011-2012 Estimated Monetized Value of Outcomes	25
Table 4: SROI Ratio for the District.....	30
Table 5: Variables that Could Negate Net Benefit	31
Table 6: SROI Ratio in Relation to Percentage of Outcome Values.....	32

SECTION ONE: INTRODUCTION

Purpose

There is widely held public perception that K-12 public education is not delivering an efficient or effective system of learning for the children of this country. The following excerpt from the results of a Rasmussen Public Opinion Poll further substantiates this view: “Voters overwhelmingly (72 percent) believe that taxpayers are not getting a good return on what they spend on public education” (April 27, 2011). In the spirit of continuous improvement and in an effort to garner support for public education through illustrating its value, I am of the strong opinion that there exists the need to quantitatively and qualitatively do so in terms familiar to and understandable by the community at-large.

The methodology I propose for executing this process is known as Social Return on Investment (SROI), a type of social accounting that is becoming widely applied to non-profit organizations where impact cannot be easily measured by revenue and profit margins. A baseline SROI for our school district will provide opportunities to recognize and promote a positive SROI (if one is calculated) and/or establish a gauge for assessing future district-wide and individual school improvement efforts. In addition, a uniform formula can then be used to compare our district’s SROI to that of other Florida districts or utilized to formulate school-to-school comparisons within our district.

Rationale

During my thirty-two year career as a public educator, I have experienced a multitude of philosophies, theories, and beliefs. These have been manifested through local, state, and national political and governmental processes and practices that have resulted in an increasingly negative perception of public education relative to its efficiency and effectiveness. As evidenced by a

recent newspaper article (Green, 2012), this is a sentiment that extends to the school district where I started my study as well.

In my view, this phenomenon is in direct correlation to the growing standards and accountability movement dating back to the mid- 1990s, which was based primarily on student performance measures associated with various norm and criterion- referenced assessments administered in specific disciplines at varying grade levels (Popham, 2008). More recent iterations based on national No Child Left Behind legislation brought much needed attention to student sub-groupings that placed a spotlight on the performance of all students. Despite this noble effort to ensure equity and access to high quality education for all students, the realities of economic, resource and cultural disparities are often overlooked or dismissed as nothing more than excuses by politicians and community stakeholders instead of explanations of issues schools must mitigate to insure learning. Therefore, a simplistic state-issued grade or ranking often becomes the single factor in determining school, district or state success without consideration of those factors known to impact student performance.

Currently, there is no consistent methodology to quantitatively and qualitatively assess our school district's status in these areas. Therefore, there is a demonstrated need to expand on this framework to establish a statistically reliable means of determining the district's Social Return on Investment (SROI) based on identified inputs and outputs when adjusted for those factors that impact results such as those described by Duncombe and Yinger (2005). In my previous role as the district's associate superintendent for learning, I thought such an analysis would afford me the opportunity to promote a favorable SROI with our community. Regardless, the results of the analysis would assist in determining the district's relative efficiency and

effectiveness, demonstrate the extent to which programs are meaningfully impacting desired outcomes, and ultimately lead to instructional and programmatic adjustments for improvement.

Goals

Social Return on Investment (SROI) is a relatively new concept dating back to the 1990's as applied to non-profit organizations to quantify their impact and level of effectiveness and efficiency as defined by a ratio of identified input and output metrics to determine the social value benefit (United Kingdom Cabinet Office, *Social Return on Investment - an introduction*, 2009). However, co-authors Lawlor, Nietzert, and Nicholls (2008) noted SROI should also be a "story of change" based on qualitative and quantitative analyses. According to the SROI Network, an international network of organizations utilizing the SROI methodology, SROI is based on seven principles highlighted by its core terminology including: stakeholders, scope, financial proxies, social value, benchmarks and transparency. Social Return on Investment in the context of educational programming serves as a framework for understanding, assessing, managing, and improving educational programming and desired outcomes. By completing an SROI analysis, I aimed to establish a baseline SROI that can be used in determining the district's efficiency, effectiveness, and relevance as well as a basis for future district-wide curricular, instructional and programmatic improvement efforts. Although there are potential concerns in doing so, this study, if implemented with strict fidelity, could yield a uniform approach to compare one school district's SROI to that of another school district and/or to formulate school-to-school comparisons within my own school district beyond the limited elements currently used for this purpose.

Research Questions

The primary question addressed through my program evaluation is: How can Social Return on Investment (SROI) be applied to educational programming to determine efficiency, effectiveness, and relevance in public schools? My secondary questions focused on my school district and include: Are county taxpayers receiving a good return on what they spend on public education? How is social value defined? How is SROI calculated and can it be applied in the school district? What is the relationship between inputs, outputs, and outcomes in our schools? What are our district's outcomes and what are their communal values? What is our district's adjusted SROI? How can a positive SROI for the school district be utilized to enhance its perception within the business community and community at-large? How can a negative SROI be utilized to affect change toward improving the future in our district?

Conclusion

All social organizations are faced with basic questions that validate their worth and justify their very existence. As a direct result of increasing accountability measures, internal and external stakeholders are posing these questions to school districts as well. What educational impact is the district attempting to achieve? What is the relationship between its programming and the outcomes it attains? How well is the district achieving them? How much value is being created for the community and society as whole as a result? What can be done by the organization to improve its outcomes?

Social Return on Investment (SROI) is a distinctly unique social accounting process based on a broader concept of value. The SROI methodology is now being increasingly applied to social organizations and other entities whose impact cannot be measured by revenue and profit margins. In the context of educational programming, I believe the SROI process provides both quantitative and qualitative metrics public schools can utilize in the outcomes portion of their

SROI analysis. This in turn will provide their stakeholders with a more comprehensive perspective from which to evaluate efficiency, effectiveness, and relevance of their programming beyond a single state-issued grade.

SECTION TWO: REVIEW OF LITERATURE

Introduction

Given the critical role public schools and school districts play in preparing students for a globally competitive environment as described by Wagner (2008), it is imperative for and incumbent upon them to provide investors (taxpayers) with the most effective, efficient, and relevant educational delivery system possible. In terms of accountability, Patton (2008) advocates for much more comprehensive accountability systems known as “smart accountability” that address learning as well as fiscal accountability; and systems that encourage responsibility and promote better performance. However, as noted by Mintzberg (1996), governmental social programming and activities can provide unique performance measurement challenges. He states: “Many activities are in the public sector precisely because of measurement problems. If everything was so crystal clear and every benefit so easily attributable, those activities would have been in the private sector long ago” (p.76).

As noted in previously in Section One, Social Return on Investment (SROI) is a relatively new concept, which allows non-commercial organizations to quantify the impact of their programming and activities. This program evaluation, based on SROI methodology, takes a mixed method approach. Its foundation is forged in the identification, collection, and analysis of both stakeholder input and historical empirical data elements to quantitatively and qualitatively assess the efficiency, productivity, and effectiveness of the school district. Likewise, comparisons could then be made to other school districts and/or between individual schools within a district, ultimately with the goal of improving educational programming toward enhancing the desired outcomes. Therefore, this program evaluation is responsive to the Social Behaviorist curriculum tradition as described in Schubert’s article, “Perspectives on Four

Curriculum Traditions” (1996). The basic values of this curriculum tradition address usefulness, efficiency, and productivity in terms of students learning higher standards and being able to add real value to the communities in which they reside. By completing the entire SROI process with fidelity, it seems to me it would meet the requirements of a “smart accountability” system that addresses both aspects of accountability and learning what matters.

The Cabinet Office of the United Kingdom Government is highly involved in social programming and has published substantive work on this subject. Therefore, it will serve to frame and guide this program evaluation. In its publication, “Social Return on Investment – an introduction” (2009), it states: “SROI is a framework for understanding, measuring, and managing the outcomes of an organization’s activities. SROI can encompass all types of outcomes – determining which outcomes are relevant” (p. 5).

SROI is uniquely different from other types of social accounting methodologies in that it places a monetary value on an organization’s outcomes. This allows the organization to compare its outcomes to investments made on its behalf, which ultimately yields a ratio of total benefits (social value) to total investments. However, social value can be difficult to quantify. Emerson, Wachowicz and Chun (2001) cite: “Social value is created when resources, inputs, processes or policies are combined to generate improvements in the lives of individuals or society as a whole. It is in that one has the most difficulty measuring the true value created.”

However, SROI should also include a “story of change” with both qualitative and quantitative analyses. Based on the information obtained from selected stakeholders, a theory of change can be developed that tells a story of how they believe their lives might be changed or be enhanced. Keystone (2008) defined Theory of Change as:

A specific and measurable description of a social change initiative that forms the basis for strategic planning, on going decision-making and evaluation. It can be seen as a tool to explain (make explicit) the logic of your (development) strategy. It represents the belief about causal relationships between certain actions and desired outcomes.

It is important to note that there are two different types of SROI analyses. The United Kingdom Cabinet Office (2009) clarifies the distinction between these two types of SROI analyses. The first of these is Evaluative SROI, which is conducted retrospectively and based on prior results. The second is Forecast SROI. It predicts to what degree social value would be created if the organization's outcomes are met as a result of its activities and programming. This study primarily focused on the structure and benchmarks of an Evaluative SROI relative to what it can achieve for public education and specifically for the district under consideration in this project. According to the SROI Network publication, "What is Social Return on Investment" (2012) the process:

- Allows organizations to explore the value of their services and programs
- Enables organizations to demonstrate commitment to robust impact measurement and a commercial approach to project evaluation
- Enables organizations to communicate to potential and current funders and investors the value of a service or program
- Creates a planning and evaluation tool as organizations move forward
- Forms a model which can be modified and applied to future programs and services
- Develops an ongoing relationship with stakeholders based on value and cooperative work to achieve objectives

Furthermore, a statistically reliable formula will be very useful in making accurate comparisons between districts as well as schools within districts.

Principles of SROI

SROI is based on seven principles. These principles, as outlined by the SROI Network (2012), include the objectives to:

- **Involve stakeholders:** Inform what gets measured and how this is measured and valued by involving stakeholders.
- **Understand what changes:** Articulate how change is created and evaluate this through evidence gathered, recognizing positive and negative changes as well as those that are intended and unintended.
- **Value the things that matter:** Use financial proxies in order that value of the outcomes can be recognized. Many outcomes are not traded in markets and as a result their value is not recognized.
- **Only include what is material:** Determine what information and evidence must be included in the accounts to give a true and fair picture, such that stakeholders can draw reasonable conclusions about impact.
- **Do not over-claim:** Only claim the value organizations are responsible for creating.
- **Be transparent:** Demonstrate the basis on which the analysis may be considered accurate and honest, and show that it will be reported to and discussed with stakeholders.
- **Verify the results:** Ensure appropriate independent assurance. (pp. 96-98)

These principles highlight the core terminology of the SROI methodology including: stakeholders, scope, financial proxies, social value, benchmarks, and transparency. The core objective of SROI is the value it creates for the stakeholder. The clarity of the metrics and indicators used to achieve this objective are essential to the process.

Three SROI Methodologies

While the SROI concept applies a generally agreed upon process to an organization's programming, sources differ on the exact steps that should be followed. Research for this study revealed three different methodologies each with subtle nuances to the process that distinguish one from the others. The first of these methodologies utilizes the steps laid out by the SROI Network in its publication, "A Guide to Social Return on Investment" (2012), published by the Cabinet Office of the United Kingdom. These steps move through the process from determining the scope to identifying and assigning value to inputs and outcomes to calculating and reporting the SROI.

Another United Kingdom organization that has done substantive work with SROI is the New Economics Foundation. Although similar to the principles specified in the SROI Guide cited above, the NEF publication authored by Lawlor, Neitzert and Nicholls entitled, "Measuring Value: A Guide to Social Return on Investment" (2008), focuses primarily on using stakeholders and prioritizing them at the beginning of the process "because it is neither possible nor relevant for you to consult all stakeholders" (p. 15). The final approach is the Roberts Enterprise Development Fund (REDF), which pioneered the SROI methodology. The primary difference between the two previously mentioned approaches and that of the REDF is the level of financial calculation as it relates to forecasting cash flow. This approach seems to be more appropriate for organizations involved in product sales rather than for its social impact. For this reason, I chose the methodology outlined in the SROI Network publication, "A Guide to Social Return on Investment (2012) to serve as the contextual framework for my study.

The SROI Process

Establishing scope and identifying key stakeholders. The first step in the SROI process is typically divided into two parts that can be completed before the actual analysis. First,

the SROI Network publication, “ A Guide to Social Return on Investment” (2012), advises organizations to “establish scope” by addressing its purpose, audience, objectives, resources, activities, period of time and how often SROI will be completed (p. 18-19).

The SROI Network (2012) also defines stakeholders as “people or organizations that experience change, whether positive or negative, as a result of the activity being analyzed” (p. 20). Stakeholders can include employees, students, parents, donors and taxpayers. Stakeholders are then involved in the process by gathering data about how an organization’s programming impacts them.

Developing a theory of change. Based on perspectives provided by stakeholders in the previous step, the organization can establish a theory of change. Keystone (2008) portrays the theory of change as a road map for helping to plan the trip (i.e. strategies) leading from the current situation to the one that is desired.

Identifying inputs. In this step the organization identifies what investments or contributions are made to it to achieve identified outputs. Monetary inputs might include funding allocations or grants, while non-monetary inputs might include volunteer time. Impact maps are often utilized to depict the relationship between inputs, outputs, and outcomes associated with the analysis.

Identifying results. Results are outputs that are translated into outcomes. In essence, the outcomes are the objectives of the organization – the impact on social value it aims to achieve. In the case of the non-profit sector, Emerson, Wachowicz and Chun (2001) specify the need to transform society and the world for the better (p. 3).

Valuation. The most significant and challenging step in the SROI process is the selection and valuation of the outcomes to be used for the analysis. The United Kingdom

Cabinet Office publication, “Social Return on Investment – an Introduction” (2009) states: “This stage involves finding data to show whether outcomes have happened and then giving them a value (p. 8). Given the critical importance of accurate data in this phase of the process and to the overall fidelity of the analysis, it is imperative that it be based on reliable sources, metrics, and collection methods. Some outcomes will be more subjective than others. Consistent with SROI methodology, cases where outcome data is not available or it is difficult or impossible to measure an outcome directly, a financial proxy, or estimate of monetary value may be used. This often requires extensive research and validation to ensure accuracy and reliability. Regardless, the SROI process demands that an indicator must be quantifiable, which requires establishing a financial proxy such as potential salary earnings or contributions as a taxpayer. After valuating the benefits in some way, the organization can complete its SROI analysis.

Calculating the SROI. This step involves adding up all the benefits, subtracting any negatives and comparing the result with the investment. The Calculation of this ratio can be a relatively simple or complicated process, dependent upon the scope of the analysis. Lawlor, Neitzert, and Nicholls (2008) indicate in its most simple form, different types of value being created are added up and then divided by the total inputs including organizational and stakeholder contributions. However, depending on the needs of the organization, a more complex methodology may be necessary known as adjusted SROI. As the term implies, the analysis may need to be adjusted for “dead weight” (what would have happened anyway), attribution (who else helped in the effort), or inflation. Similarly, Bradford, Malt and Oates (1969) expanded this concept to include the belief that educational costs and benefits often correlate to student characteristics. Their now famous article revealed that the cost of public services was largely dependent upon the environment in which they were provided. Many

studies have since found this premise to applicable to education as well. Duncombe and Yinger (2005) suggest that it is generally recognized that it costs more to educate disadvantaged students than those who are not. They advocate for the use of an education cost index, which functions much like a cost-of-living index. Specifically, this index designates the amount a high needs district must expend relative to that of an average district to achieve the same results. It is in this context that I used the cost of educating disadvantaged students as a factor in the calculation of the adjusted SROI for this study as illustrated in Figure 1.

$$\text{SROI ratio} = \frac{\text{Total (adjusted) value of results}}{\text{Total value of inputs}}$$

Figure 1. Calculation for adjusted SROI.

Verification and reporting of results. The vital last step in the SROI process entails verification of the analysis, reporting findings to stakeholders and incorporating positive outcome processes. The SROI Guide (2012) emphasizes the critical importance of organizations reporting both the process and the results, particularly their data collection and calculation methodologies. In addition, organizations can seize this opportunity of reporting and publishing its first SROI analysis as a “catalyst for change.” In its publication, “Social Return on Investment – an introduction” (2009), the United Kingdom Cabinet Office advises:

With the systems in place for evaluation and data collection, organizations now have a tool by which to measure the outcomes of their activities and to make improvements. Organizations should particularly emphasize ongoing communications with stakeholders to maximize social value in the future

according to recommendations from those involved in the process. This also allows stakeholders to see change over time in the ratios (p. 8-9).

Conclusion

While there may be broad societal awareness and general perceptions regarding the value of public education, there have been few studies that attempt to quantify and compare costs and benefits for investors (taxpayers) and beneficiaries (students and society). In the interest of clarity and accuracy, it is important to make adjustments for those factors that are known to have an impact on student performance. As indicated by the literature, the SROI process can fulfill this purpose. Furthermore, the resulting analysis can serve as the impetus for systemic change through the employment of strategic planning efforts and the garnering of support and necessary resources that lead to enhanced student success and ultimately, societal improvement.

SECTION THREE: METHODOLOGY

Research Design Overview

The conceptual framework for Social Return on Investment (SROI) is grounded in the notion that all actions impact the world in which we live by either enhancing or diminishing value. While these actions are often expressed in financial terms used for decision-making, planning, evaluating, and accounting, SROI is a vehicle to conceptualize a broader concept of value. SROI is particularly useful in the public sector where social programming and activities can present unique performance measurement challenges. With this in mind, The SROI methodology served as the basis of this inquiry.

Conducting an SROI analysis with fidelity leads to what is known as the SROI ratio. This is the ratio between the value of investments made by contributors of the organization and the amount of benefit derived from the organization's programming and related activities.

The overall SROI analysis methodology is based on seven stages:

1. Identification of scope and selection of key stakeholders
2. Developing a theory of change
3. Identifying inputs
4. Identifying results
5. Valuation (valuing inputs and results)
6. Calculation of the SROI ratio
7. Verification of results

By completing all seven stages of the SROI analysis with fidelity and collecting both qualitative and quantitative data as outlined below, I rendered a statistically reliable assessment in determining the efficiency, effectiveness, and relevance of the educational programming relative to the school district. This baseline SROI may then be used as the basis for comparisons

with other districts, comparisons between schools within the district, guide future systemic improvement, and ultimately enhance the perception and satisfaction among all stakeholders.

Establishing the Scope

Like most public organizations, a school district produces a wide array of impacts that affect numerous stakeholders. It is not feasible to identify every impact and every affected party. Therefore, the typical initial step in the SROI methodology is to establish boundaries described as the scope of the analysis from the outset of the study. For this study, there are two important boundaries in two categories. The first of these are the types of activities and outcomes to be quantified. The second entails the various stakeholders affected by the school district. Each of those elements specified within each step of the analysis are described in detail below. While I was the lead researcher in this study, I did get assistance and support from my district's Information Services and Assessment, Accountability and Evaluation Departments in securing data for the study.

I established the initial baseline SROI using data from the 2011-2012 school year. It is anticipated that subsequent SROI analyses will be conducted at three- year intervals. This will allow a reasonable time period for intervening improvement activities enacted as a result of the theory of change process to be implemented prior to the next SROI analysis.

Participants

The SROI process benefits greatly from the involvement of stakeholders. This is typically accomplished by asking them directly about how the organization's programming impacts them.

Thus, internal and external stakeholders' involvement depended upon the extent to which they could influence the project, or benefit from its results.

Identification of Key Stakeholders

As noted above, the involvement of key stakeholders is an integral aspect of the SROI process. The internal stakeholders I included were teachers, administrators, and parents. External stakeholders consisted of recent graduates of the district's schools (within four years) and representative members from the district's Vision committee, which, as the name implies, is a broad-based countywide visionary organization that holds education as a vital aspect of economic development and quality of life.

Data Gathering Techniques

I designed group-specific (e.g. recent graduate, educator, Vision member) surveys, which will subsequently be validated by my district's Assessment, Accountability and Evaluation Department. I administered three surveys to all groups as part of the theory of change conducted through the change leadership process in the subsequent chapter of this document. The general purpose of the surveys is to determine the stakeholder's relationship with the school district, their respective current perception of public education in the county, and their beliefs regarding the causal relationships between certain curricular/ instructional programming adjustments and desired outcomes.

Based on the information I obtained from the selected stakeholders described above, I formulated a theory of change. This theory of change details how the stakeholders are or were involved with the school district and their perception and belief of the derived benefit, if any. Furthermore, it depicts the connection between the district's expenditures (inputs), the results of

these expenditures (outputs), and the long-term benefits of the district's results (outcomes).

Figure 1 represents this relationship.

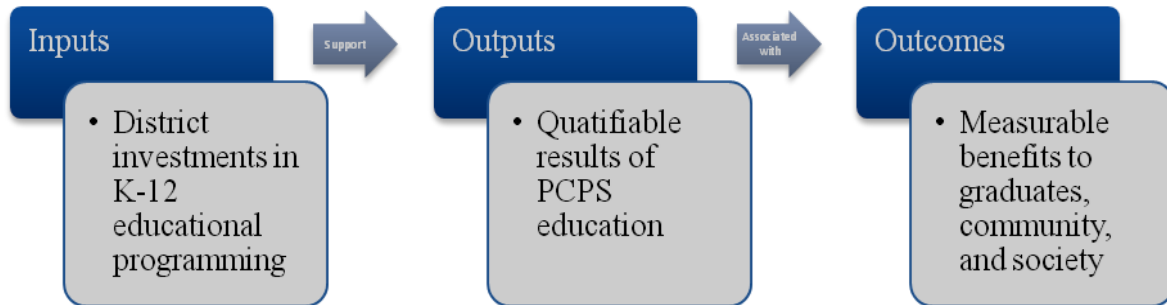


Figure 2. Relationship between Inputs, Outputs, and Outcomes.

The SROI Network recommends that inputs, outputs, and outcomes be specified as precisely as possible in order to assure an accurate quantitative analysis. I utilized impact maps to visualize the process of identifying and valuing inputs, outputs, and outcomes. Figure 2 serves as the impact map for this analysis. The resulting theory of change served as the basis for the Change Leadership Plan in the subsequent section of my dissertation document. Although not specifically addressed within the scope of this study, the work of Kotter and Cohen (2002) was

one recommended framework for executing the theory of change process.

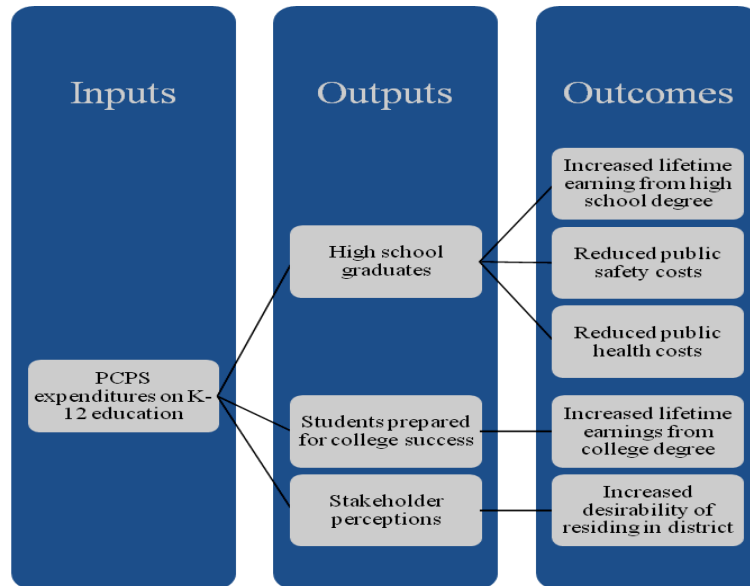


Figure 3. Impact map for SROI analysis.

Data Analysis Techniques

Identifying Inputs and Mapping

For the purposes of this project, I derived inputs from sources provided to the district during the 2011-2012 school year based on a combination of local (Required Local Effort and discretionary property taxes) and state funding resources as expressed through the annual appropriations based on per student full-time equivalent (FTE) and weighted full-time equivalent (WFTE). The other resources I utilized for this purpose are categorical funds, including instructional materials and capital outlay, as well as federal entitlement allocations and grant awards.

Identifying Outputs

I translated outputs into outcomes, which are the objectives or the social value impacts achieved. It is rightfully purported that graduation from high school with the requisite skills and

knowledge base to be successful in post-secondary education or technical careers for the twenty-first century are critical to the economic base of my state and country and thus a primary indicator of public education's viability. However, the district inputs also produced two additional outcomes that warrant consideration. The first of these is college readiness. It is important to note that graduation from high school today in Florida includes the necessity of passing the state-mandated Florida Comprehensive Assessment Test (FCAT) and end-of-course examinations, which adds to the importance of the graduation rate as a sign of academic success. As for college and career readiness, the State of Florida has begun administering the Post-Secondary Education Readiness Test (PERT) that, as the name implies, assesses readiness in the areas of reading, writing and mathematics to meet the challenges of continuing education and work. However, as of this date, the State has not established by rule the level of achievement to demonstrate readiness in these areas. Therefore, for the purposes of this project, outputs are defined in terms of the Federal High School Graduation Rate and the number of the districts's graduates enrolled in postsecondary institutions.

Valuation. The most significant step in the SROI process is determining and valuing outcomes. The data collections for this step involved the development or use of reliable and fiscally sound metrics. For this project, I collected and analyzed data provided by various state and federal sources to facilitate the calculation of inputs, outputs, and outcomes translated to a SROI ratio.

Input values are simply the school district's expenditures for the 2011-2012 school year. For purposes of this study, inputs are comprised of only those expenditures dedicated exclusively for K-12 education and thus do not include expenditures on other categories such as adult education. Table 1 provides a summary of these programs and corresponding expenditures.

Table 1.

2011-2012 Inputs by FTE Program

FTE Program	Number of FTE Students in 2011-2012 by program	Total Program Costs	Cost per FTE Student
K-3 Basic	19,744	120,394,202	6,098
4-8 Basic	24,403	134,644,608	5,518
9-12 Basic	16,126	89,698,605	5,563
English Speakers of Other Languages (ESOL)	6,920	35,958,636	5,197
K-3 Exceptional Student Education (ESE)	3,164	36,950,636	11,677
4-8 ESE	5,250	48,342,504	9,208
9-12 ESE	4,281	35,473,730	8,287
ESE Support (Program 254)	255	4,886,756	19,150
ESE Support (Program 255)	194	4,742,893	24,487
6-12 Vocational	2,690	16,566,993	6,159
Total of All District Educational Programming	83,026	529,659,553	6,379

It is important to note that two aspects of the district’s demographics deserve particular attention because they are likely to increase the total amount of inputs by a significant amount. First, as the per-pupil breakout of expenditures indicates, the cost of educating certain student groups, particularly Special Education Students, greatly exceeds the per-pupil cost of K-12 basic education. Second, the “Free /Reduced Price Lunch Eligibility for the 2011-2012” published by the Florida Department of Education cites that the district educates a high percentage of low-income students (68.3 percent), as indicated by 2011-2012 free or reduced-price meal eligibility. As previously noted, research conducted by Duncombe and Yinger estimated that the cost associated with educating disadvantaged students exceeds that of educating non-disadvantaged students by 111 percent to 215 percent. Unfortunately, there is no apparent corresponding

estimate of the value of educating these students that would allow an adjustment for the value of outcomes. Accordingly, while the SROI analysis reflects the increased costs of educating disadvantaged students, it does not account for any outcomes associated with these students.

As noted previously, output values are based upon high school graduates (Appendix B) and college readiness. Table 2 provides detailed information for each output category. These outputs correlate with the outcomes identified in the impact map depicted previously in Figure 3.

Table 2.

2011-2012 Outputs

Category	Quantity
High school graduates	4,514
Graduates enrolled in college	2,379 (estimated)

The key output element of this analysis is the number of high school graduates realized by the district. While the school district certainly produces many other benefits, high school graduation correlates with several other quantifiable outcomes. The “Florida Public High School Completers, 2011-2012” published by the Florida Department of Education served as the primary source of data for this output.

For purposes of this analysis, college readiness was measured by an estimate of the number of 2011-2012 graduates enrolled in some form of postsecondary education. This output most closely correlates with the outcomes identified in Figure 2. The High School Feedback Report for 2012 indicates that a total of 4,654 students graduated from the district in 2012. Of these, 45.8 percent or 2,132 graduates were enrolled at a public Florida postsecondary institution and 4.4 percent or 205 graduates were enrolled in one of Florida’s independent colleges or universities. Consistent with SROI methodology, cases where outcome data is not available or it

is difficult or impossible to measure an outcome directly, I used a financial proxy, or estimated monetary value. Because the 2012 High School Feedback Report does not include data on enrollment rates at non-Florida postsecondary institutions, I used the Florida Department of Education’s Postsecondary Plans of 2011-2012 Florida High School Graduates to develop a proxy. According to the report, 272 students of 5,021 completers (5.4 percent) indicated that they planned to attend a non-Florida institution. Since it is doubtful that all 272 students did attend out of state institutions, I have estimated that number to be no more than 90 percent or 245 students. Based on these calculations, approximately 55.1 percent or 2,564 of district graduates enrolled at a college or university.

In order to determine the value of each outcome associated with the school district’s outputs, I calculated them at their current value. The sum of all contributions to the district for future benefits using a concept known as “present value” to account for inflation. This adjustment for inflation is based on a similar study conducted by Michael Walden on behalf of the Virginia Beach City Public Schools (2011) in which he used the annual rate on a 30-year maturity of a Treasury bond, which is approximately 3.7 percent as of August 2013 (Week of August 19). Table 3 represents the value of all outcomes based on identified financial proxies and explanations for each proxy.

Table 3.

2011-2012 Estimated Monetized Value of Outcomes

Outcome	Financial Proxy	Projected Value
Increased lifetime earnings from high school completion	Present value of high school completion; number of 2012 graduates	\$969,239,759

Increased lifetime earnings from college completion	Present value of college completion; number of estimated 2012 graduates; contribution of high school GPA to probability of college graduation	\$76,466,438
Lower incarceration rates	Present value of reduced expenditures on crime; number of 2012 graduates	\$211,926,566
Lower medical costs	Lifetime value of saved medical costs; number of 2012 graduates	\$77,484,446
Total of all calculated outcomes		\$1,335,117,209

The knowledge and skills acquired by students in K-12 public education builds what has come to be known by economists as “human capital.” In today’s economy and based on numerous studies, students with more human capital tend to have greater success in obtaining jobs and earning higher salaries which translates to higher income over their lifetime. Because graduation from high school and college both impact lifetime earnings, I calculated the respective benefits of each and included them in this analysis. Therefore, two proxies are necessary for doing so.

Calculating the additional lifetime earnings as a result of graduating from high school required three steps (Appendix A). The first step is to determine the average annual difference in earnings between a high school graduate and an individual who does not have a high school diploma. According to the U.S. Bureau of Labor Statistics (May, 2013) this difference is \$181 weekly, or \$9,412 annually. The next step is to calculate the present value of this annual premium for the working life of a graduate. Following Walden, this analysis assumes a working life of 47 years, or ages 18 to 65. Finally, to determine the total impact, one must multiply by the number of graduates. This calculation yields a figure of \$969.2 million in additional earnings.

Estimating the additional lifetime earnings as a result of completing college is slightly more involved. School districts are only partial contributors to college success, so only a fraction of the earnings for college graduates can be attributed to the district. A study of approximately 75,000 students in the University of California system (Geiser and Santelices, 2007) suggests that high school grade point average (GPA) may be used to determine a school district's contribution to college success: high school GPA explains approximately 20 percent of a student's college graduation outcome. Because other factors such as SAT scores are not highly predictive of college graduation, this analysis assumes that the district's contribution to college graduation is 20 percent.

The value of a college degree varies by degree type. On average, a graduate with an associate's degree earns \$6,916 more annually than an individual with only a high school diploma, and a graduate with a bachelor's degree earns \$21,528 more annually than an individual with no degree beyond a high school diploma. Using the percentage of the 2011 district's graduates attending a two-year Florida college as proxy for the 2012 value, 32.5 percent of 2012 graduates are attending a Florida community college. According to data from the National Center for Education Statistics (NCES, 2012), Florida community college students had a graduation rate of 38.2 percent in 2010. Using this number as a proxy as well, an estimated 578 of the district's 2012 graduates will earn associate's degrees, which will reflect more than \$17 million contributed by the district. A similar series of calculations, which assume that 22.6 percent of district graduates enroll at a four-year college and graduate at a rate of 61.4 percent, yields \$59.4 million in lifetime earnings due to a district's education.

High school graduates experience lower rates of unemployment than individuals without a high school diploma. This rate, however, does not correspond to any annual outcome that can be monetized. Therefore, I had to explore other similar metrics that can be monetized.

One such metric that can be monetized is the incidence of unemployment, or the percentage of individuals who lose jobs within a given period of time. Because state governments pay unemployment benefits to individuals who have lost their jobs recently, an elevated annual incidence of unemployment corresponds to a larger annual financial burden on the public sector. A second, similar metric is the incidence of re-employment, or the probability that an unemployed person will find employment within a given year. Higher re-employment rates translate to reduced financial burdens on the state.

A recent study conducted by Riddell and Song (2011) finds that graduating from high school has no effect on the incidence of unemployment. The same study, however, reports that re-employment rates are 40 percent higher for high school graduates. This higher probability of re-employment may in turn reduce the financial burden to states. To determine whether this is so, additional data are necessary to estimate how often re-employment occurred prior to the expiration of state unemployment benefits. Unfortunately, I was not able to uncover such data, so it is not possible to monetize the value of re-employment at present and therefore I did not consider it in this study.

A study by Lochner and Moretti estimates that high school graduation is associated with a \$1,170 to \$2,100 decrease in public safety spending per graduate. I used the Consumer Price Inflation calculator provided by the Bureau of Labor Statistics to update these figures from 1993-dollars to 2013-dollars producing a range of \$1,891 to \$3,395. Using the lower end of the range,

the present value across 61 years (ages 18 to 79) is \$45, 536 per person. For the entire 2012 district’s graduating class, the savings total \$211.9 million.

The Alliance for Excellent Education (November 2006) estimated that each additional Florida graduate saved the state \$13,920 in lifetime health benefits. Adjusted for inflation, these savings amount to \$16,649. For 4,654 district’s graduates, the amount saved is approximately \$77.5 million.

Calculating SROI

In calculating the SROI ratio, I compared the investments or contributions (inputs) made on behalf of the district, and the returns (outputs) on the other. The formula for the SROI ratio is depicted in Figure 4.

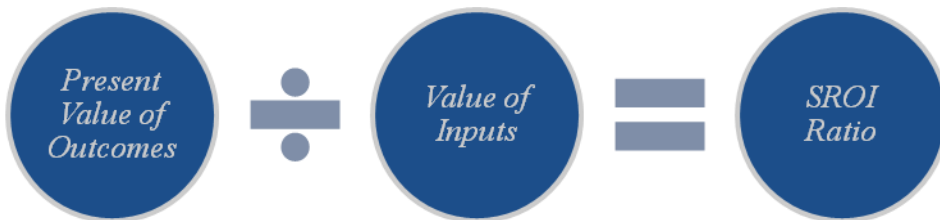


Figure 4. SROI Ratio Formula

In keeping with the methodology of SROI, the ratio represents the magnitude of the return on investment relative to the magnitude of the initial investment. Thus, an SROI ratio of 3 indicates that the investor received a return three times a large as the original investment.

Verification

The final step in the SROI process is to verify and report the results of the analysis. It is recommended that I use an independent entity to validate the process and the results, particularly with respect to the data and sources used, as well as the calculation itself. This not only verifies

the results of the analysis but also enhances the transparency of the process. Toward this end, I utilized Hanover Research to verify these aspects of the analysis. In addition to reporting the ratios of investment to benefit, I anticipated the possibilities and risks associated with either a positive or negative adjusted SROI calculation. With this in mind and in the spirit of continuous improvement, I implemented the aforementioned theory of change as the next phase of this process to further enhance a positive SROI calculation or to initiate curricular or programmatic adjustments in addressing a negative calculation. In any event, I am committed and attempted to disseminate the results of the process, particularly in justifying the data collection process and calculation methodologies in terms that are clear, concise, and easily understood by all stakeholders.

SECTION FOUR: FINDINGS & INTERPRETATION

Introduction

Table 4 presents the SROI ratio for the district. Based on the SROI analysis, the district's programming and activities that support high school graduation and college success generate a return that is at least 2.5 times as large as the district's expenditures.

Table 4.

District SROI Ratio

Input Value	Present Value of Outcomes	SROI Ratio
\$529,659,553	\$1,335,117,209	2.5

While the ratio indicates that the social and human capital value of several important district's outcomes is more than double the value of inputs, the significance of the figure is limited.

Because this analysis is confined to a limited range of outcomes, the SROI ratio does not reflect all possible outcome values that may be either positive or negative.

I conducted a sensitivity analysis to examine which outputs and financial proxies had the greatest influence on the total outcome value and the SROI ratio. Typically, the analysis determines the values of outputs and outcomes for which SROI ratio would be equal to 1.00. This is a figure that represents no net return on the investment. I calculated each output and outcome variable independently while holding the other variables fixed. This process reveals which variables most affect the SROI ratio.

As Table 5 shows, only two variables influenced the total value of outcomes enough so that adjusting them would reduce the SROI ratio to 1.00. Reducing the number so the SROI ratio would drop to 1.00 if the increased annual earnings associated with a high school degree

fell to \$1,590. These results indicate that the number of district graduates and the value of a high school degree are the most influential factors in the district’s SROI.

Table 5.

Variables that Could Negate Net Benefit of District Inputs

Variable	Actual Value	Value at Which SROI Ratio is 1 (eliminates net benefit)
Number of district graduates	4,654	1,847
Increased annual earnings from high school graduation	\$9,412	\$1,590

I used a second aspect of sensitivity analysis to examine the impact of assigning more or less responsibility for a given outcome to an organization. So far this analysis has assumed that the district is responsible for 100 percent of outcomes related to high school graduation. This assumption is most likely inaccurate. Therefore, it is important to examine scenarios in which the school district is only partially responsible for a student’s high school graduation. Table 6 presents the total value of all outcomes and the corresponding SROI ratio when the district receives credit for varying percentages of outcomes related to high school graduation. Note that these calculations do not adjust the value of outcomes related to college graduation; the analysis still assumes that the school district is responsible for 20 percent of such outcomes.

The analysis shows that the school district would generate almost two dollars for every dollar spent even if the district could claim only 75 percent responsibility for a student’s high school graduation. The SROI ratio would drop to 1.00 only if no more than 36 percent of high school graduation were attributable to the county’s school district.

Table 6.

SROI Ratio in Relation to Percentage of Outcome Values Attributed to the District

Percentage of Outcome Value Attributed to the District	Value of Outcome Dependent Upon High School Graduation	Value of All Outcomes	SROI Ratio
100	\$1,225,650,771	\$1,335,117,209	2.52
75	\$943,988,078	\$1,020,454,517	1.93
50	\$629,325,386	\$705,791,824	1.33
36	\$463,049,177	\$529,659,553	1.00

Conclusion

As demonstrated above, completing the entire SROI methodology is a process that would require a strong commitment from any organization. It requires significant investment in understanding the impact an organization’s specific programs and activities are having on all of its stakeholders – both in the short and long term. Although the process should ultimately result in a ratio of social value to investment inputs, SROI can be touted as a framework that should allow an organization to quantify its impact. Moreover, it can also provide a structure for strategic thinking and planning that leads to organizational improvement.

Ethical Considerations

This study complied with and adheres to all ethical standards in accordance with those designated by the American Educational Research Association, 6B-1.006 Principles of Professional Conduct for the Education Profession and National-Louis University. In the interest of full transparency and consistent with SROI methodology, data collections, reports and statistical calculations were derived from reliable sources and independently verified prior to the publication of this study. All participant surveys were conducted anonymously and treated with complete confidentiality. I reserve the right to distribute my study to those who might request it based on its readiness for release.

SECTION FIVE: JUDGMENT & RECOMMENDATIONS

Judgment

As calculated above, the SROI ratio for the school district yields a return that is more than two-and-a-half times greater than the investments it receives. The size of the district's return depends primarily on the number of students graduating from high school and the lifetime earnings associated with a high school diploma. In accordance with this analysis, the district would fail to produce a return on investment only if one or both of these variables declined dramatically. Consequently, increasing the number of graduates while monitoring and controlling spending will produce the largest positive effect on the district's SROI.

While the primary beneficiaries of district activities are high school graduates, the community and society as a whole benefits greatly from the district's activities as well. The school district's 2012 high school graduates are expected to earn almost \$970 million more collectively across their lifetimes as a result of graduating from high school. The savings to the state and federal governments from reduced public health and public safety costs total almost \$290 million over the lifetimes of the 2012 graduates (Appendix B).

Although the district contributes to outcomes related to college graduation, these represent a small fraction of the district's total return. Because the district has a relatively small influence on the probability of graduation from college, financial benefits associated with post-secondary graduation account for only a modest percentage of the district's SROI. Nonetheless, the district could improve its SROI by producing more students who graduate from high school, as well as enter and complete college.

Recommendations

A SROI analysis benefits greatly from the inclusion of representative stakeholders whose insights and perspectives can assist in informing a theory of change. Therefore, I developed a change leadership plan that will incorporate the quantitative results of the analysis thus far along with the qualitative results obtained through group-specific surveys. However, the scope of this study going forward will be limited since I am no longer an employee of the school district and am serving as a superintendent of schools in another state. My plan I used the results of the study to develop a change leadership plan and policy proposal for my current district. They both relate to the issues of financial and educational accountability in enhancing learning for all students and increasing the districts impact on their social return on investment.

As noted above, I believe any school district could improve its SROI by producing more students who graduate from high school prepared for college or a career. Again, this study originated and focused on Florida. The concern that needed to be addressed was Florida's adoption of and transition to the new Florida Standards based on the Common Core State Standards and correlated assessments. I felt these new standards would require significant changes in student expectations and teacher practice and students would be required to develop and demonstrate a deeper degree of understanding of content and show evidence of their ability to utilize higher order, critical thinking skills. Likewise, teacher practice and instructional delivery would need to be modified to prepare for and accommodate these higher student expectations. I believe these shifts in expectations, curriculum, pedagogy, and culture must be facilitated through a transformational systemic approach. And what is real in Florida is real in Georgia. And the district where I now serve as Superintendent has the same standards and expectations to deal with and this study will be helpful in helping us form a related SROI policy

proposal.

Conclusion

The quantitative and qualitative results of this program evaluation project and the subsequent change leadership plan provide a unique opportunity to merge the perceptions of internal and external stakeholders with the current reality of empirical data outcomes, the result of which will yield a meaningful and statically reliable baseline SROI. I think the stakeholder survey results reveal curricular and programmatic areas that must be continued, expanded, or improved upon. And while the results of the SROI analysis are positive, the SROI analysis that considers student outcomes will further inform my former school district and its constituents of the district's efficiency and effectiveness. Realizing the district's current reality with respect to graduation rates and college and career readiness scores that lag behind those of the state, as well as the significantly higher and different expectations associated with the new Florida Standards adopted from the CCSS and related assessments, there is an evidence supported need for a district-wide plan to re-shape the vision of teaching and learning, to re-align resources, and build upon the SROI analysis even though it rendered a positive ratio for the district.

REFERENCES

- Alliance for Excellent Education. (2006, November). *Healthier and wealthier: Decreasing health care costs by increasing educational attainment*, 5. Retrieved from <http://succeedinpa.org/wp-content/uploads/2013/01/Healthier-and-Wealthier.pdf>
- Board of Governors of the Federal Reserve System. (August 19, 2013). *Selected interest rates (weekly)*. Retrieved from <http://www.federalreserve.gov/releases/h15/current/>
- Bradford, D., R.A. Malt, & W.E. Oates (1969). The rising cost of local public services: Some evidence and reflections. *The National Tax Journal*, 22(2), 185-202.
- Cabinet Office, Office of the Third Sector, United Kingdom. (2009). *Social return on investment-an introduction*. Retrieved from http://www.thesroinetwork.org/publications/doc_details/75-social-return-on-investment-an-introduction
- Chronicle of Higher Education. (2012). *Graduation rates by state*. Retrieved from http://collegecompletion.chronicle.com/state/#state=ny§or=public_two
- Duncombe, W. & Yinger, J. M. (2005). How much more does a disadvantaged student cost? *Economics of Education Review*, 24(5), 513-532.
- Emerson, Wachowicz & Chun (2001). *Social return on investment (SROI): Exploring aspects of value creation*. Retrieved from <http://hbswk.hbs.edu/archive/1957.html>
- Florida Department of Education. (2012). *Florida public high school completers 2011-2012*. Retrieved from <http://www.fldoe.org/eias/eiaspubs/xls/grads1112.xls>

Florida Department of Education. (2012). *Free/reduced price lunch eligibility 11-12*. Retrieved from <http://www.fldoe.org/eias/eiaspubs/archives.asp>

Florida Department of Education. (2012). *High school feedback report-Florida public high school graduates*. Retrieved from <http://www.data.fldoe.org/readiness/default.cfm>

Florida Department of Education. (2012). *Postsecondary plans of 2011-2012 Florida high school graduates*. Retrieved from <http://www.fldoe.org/eias/eiaspubs/word/postsecond1112.doc>

Geiser, S., & Santelices, M. (2007, June). Validity of high school grades in predicting student success beyond the Freshman year: High school record vs. Stanford tests as indicators of four-year college outcomes. *Center for Studies in Higher Education*, 21. Retrieved from <http://www.cshe.berkeley.edu/publications/validity-high-school-grades-predicting-student-success-beyond-freshman-yearhigh-school>

Green, M. (2012, January 23). State DOE ranks Polk 59th of 67 school districts. *The Ledger*. Retrieved from <http://www.theledger.com/article/20120123/NEWS/120129772?p=1&tc=pg>

Keystone. (2008). *Developing at theory of change: A guide to developing a theory of change as a framework for inclusive dialogue, learning and accountability for social impact*. Retrieved from <http://www.keystoneaccountability.org/sites/default/files/2%20Developing%20a%20theory%20of%20change.pdf>

Kotter, J. & Cohen, D. (2002). *The heart of change: Real life stories of how people change their organizations*. Boston, MA: Harvard Business School Press.

- Lawlor, E., Neitzert, E. & Nicholls, J. (2008). *Measuring value: A guide to social return on investment, second edition*. London, England: NEF.
- Lochner, L., & Moretti, E. (2004, March). The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. *American Economic Review*, 94(1), 155-189.
Retrieved from <http://www.nber.org/papers/w8605.pdf>
- Mintzberg, H. (1996). Managing government, governing management. *Harvard Business Review*, 72 (5), 75-83.
- New Economics Foundation. (2008). *Measuring value: A guide to social return on investment (SROI)* (2nd ed.), 7. Retrieved from
http://commdev.org/userfiles/files/2196_file_SROI.nef2008.pdf
- Patton, M. Q. (2008). *Utilization focused evaluation* (4th ed.). Thousand Oaks, CA: Sage.
- Popham, W. J. (2008). Curriculum, instruction, and assessment: Amiable allies or phony friends? In B. S. Stern & M. L. Kysilka (Eds.), *Contemporary readings in curriculum* (pp. 283-289). Los Angeles, CA: Sage Publications.
- Rasmussen Public Opinion Poll. (2011, April 27). *Rasmussen reports*. Retrieved from
http://www.rasmussenreports.com/public_content/politics/general_politics/april_2011/72_say_taxpayers_not_getting_their_money_s_worth_from_public_schools
- Riddell, W., & Song, X. (2011, March). The impact of education on unemployment incidence and re-employment success: Evidence from the U.S. Labor Market. *Institute for the Study of Labor*, 4. Retrieved from
http://www.economics.ubc.ca/files/2013/05/pdf_paper_craig-riddell-impact-education-unemployment-incidence.pdf

Schubert, W. H. (1996). Perspectives on four curriculum traditions. *Educational Horizons*, 74(4), 169-176.

SROI Network, Intl. (2012). *A guide to social return on investment*. Retrieved from http://www.thesroinetwork.org/publications/doc_details/241-a-guide-to-social-return-on-investment-2012

SROI Network, Intl. (2012). *The seven principles of SROI*. Retrieved from http://www.thesroinetwork.org/publications/doc_details/139-the-seven-principles-of-sroi

SROI Network, Intl. (2012). *What is social return on investment (SROI)*. Retrieved from <http://www.thesroinetwork.org/what-is-sroi-uk>

U.S. Bureau of Labor Statistics. (2013, May 22). *Earnings and unemployment rates by educational attainment*. Retrieved from http://www.bls.gov/emp/ep_table_001.htm

Walden, M. (2011). *The economic impact of the Virginia Beach City public school system*. Retrieved from <http://www.vbschools.com/administration/Lowdown/pdfs/viriniabeachstudy.pdf>

Wagner, T. (2008). *The global achievement gap*. New York, NY: Basic Books.

APPENDIX A

Method of Calculating Incremental Lifetime Earnings

from Attaining a High School Diploma

The dollar values in Table 3 were generated in the following way. First, the annual income increment of \$9,412 was multiplied by the number of graduates in each year. Second, the present value factor sum corresponding to an interest rate of 4.5% and a 47-year time period was calculated. This value is the sum of the individual present value factors – assuming an interest rate of 3.7 percent for each of the 47 years. The interest rate indicates how much \$1.00 declines in purchasing power in future years. For example, \$1.00 one year in the future will have a purchasing power of 95.7 cents, and two years in the future \$1.00 will have a purchasing power of 91.6 cents, etc. These purchasing power values are calculated for each of 47 years in the future and then summed. Lastly, the present value factor sum derived in the second step is multiplied by the result of the first step (number of graduates x \$9,412) to derive the results in the third column of Table 3.

Adapted from *The Economic Impact of the Virginia Beach City Public School System*

Michael Walden (2011)

APPENDIX B

Method of Calculating the Impact of a High School Graduate on Reducing Future Public Crime

Costs and Health Care Expenditures

To calculate the reduction in public crime costs associated with each high school graduate, Lochner and Moretti's lower annual estimate, which was calculated in 1993-valued dollars, was first converted to 2011 dollars. This resulted in an annual reduction of \$1809. To convert to a lifetime amount, the high school graduate's age (18) was subtracted from the current average lifespan (79 years) to derive a future period over which the annual savings would be realized of 61 years. The present value factor sum associated with a 3.7 percent interest rate and 61 year period was multiplied by the annual amount of \$1809 to give a lifetime reduction in crime costs (in 2011 dollars) associated with each high school graduate of \$37,464. Multiplying \$37,464 by the number of annual graduates gave the total savings reported in the third column of Table 3.

The public health care cost savings per high school graduate calculated by the Alliance for Education Excellence are already in lifetime amounts. The monetary value was in 2005 dollars, so this amount was converted to 2011 dollars to give a lifetime value of \$17,362. Multiplying \$17,362 by the number of graduates gave the total savings reported in the third column of Table 3.

Adapted from *The Economic Impact of the Virginia Beach City Public School System*

Michael Walden (2011)