

Teacher Self-Efficacy in Cape Town: A Bottom Up Approach to Enhancing the Quality of Education

By

YeSeul Kim

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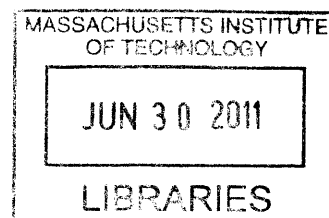
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YeSeul Kim

Submitted to the Department of Urban Studies and Planning in partial fulfillment of the requirements for the degree of Master in City Planning on May 19, 2011

Abstract

Personal teacher self-efficacy (PTE), or the belief in one's own ability to overcome a particular challenge, often acts as a catalyst for teachers to improve the effectiveness of their teaching. Gaining PTE can translate into better classroom practices, thus affecting student learning and other educational outcomes (Keenan, 2005). However, the multitude of external challenges faced by teachers, especially those who teach in disadvantaged areas in developing countries such as township schools in South Africa, can overwhelm teachers and consequently lower their self-efficacy. Since the South African government neither has the resources nor the political capital to address this concern alone, reform efforts may require the expertise of and collaboration with civil society organizations. The purpose of this study is to analyze the Cape Town Teacher Training Program (CT3P)¹ teacher training program and its impacts on teacher self-efficacy. A 22-question survey was completed by 81 educators in ten different township schools in the Metro South district of Cape Town, South Africa. Using statistical analysis, the study finds that there was a high baseline level of self-efficacy across the board among the CT3P-trained teachers, their untrained colleagues, and educators in comparable township schools. The study also finds no statistically significant difference in the mean levels of self-efficacy between those who participated in the CT3P program and those who did not. However, the semi-structured interviews with 20 teachers provide substantive evidence that CT3P may in fact make an impact on teacher self-efficacy.

Thesis Supervisor: Ceasar McDowell
Title: Professor of the Practice of Community Development

¹ Due to concerns from the NGO, the actual name of the organization that was analyzed has been changed throughout the paper and will consequently be referred to as CT3P.

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"Someone in one of the South African townships explained to me that the quality of education depended on what side of the railroad tracks you lived on. I strongly believe that education can bridge the gap between the privileged and underprivileged, and that education gives children everywhere the opportunity to break out of the cycle of poverty, no matter what side of the railroad tracks they were born on."

I humbly dedicate this thesis to all the children born on the wrong side of the railroad tracks.

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CHAPTER 1. INTRODUCTION

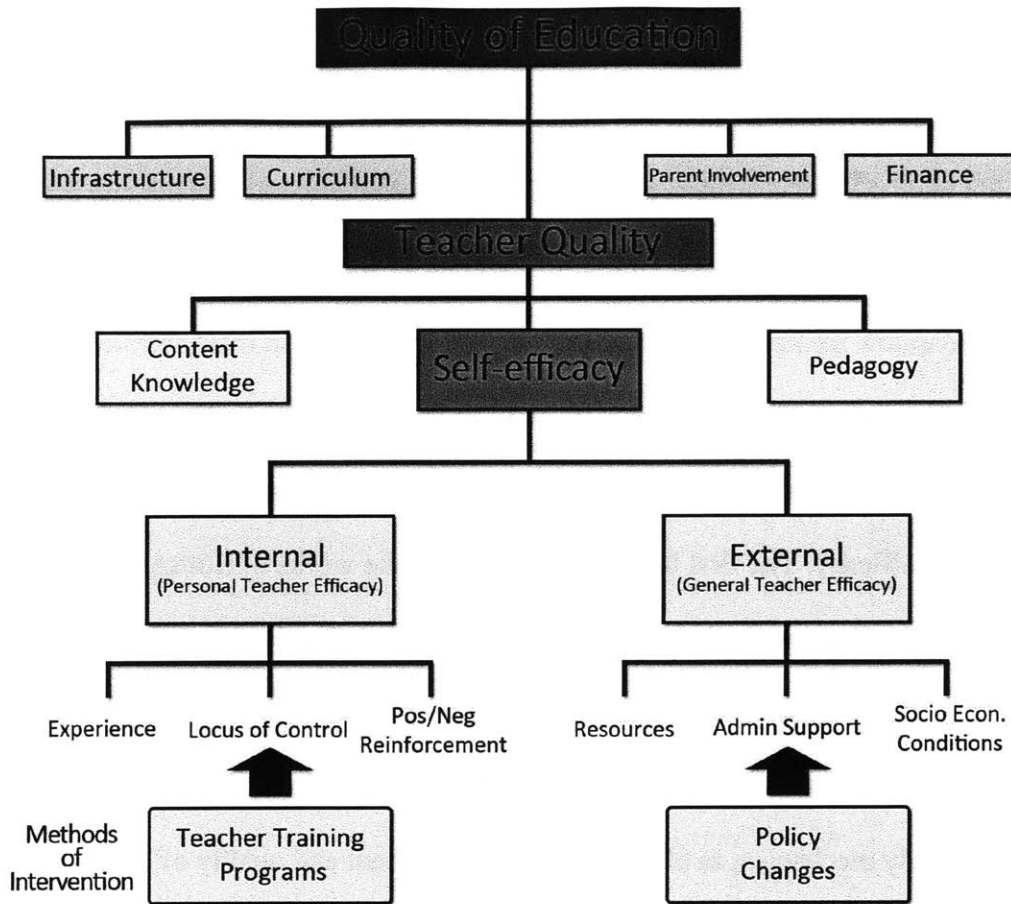
Summary

Improving the quality² of education is of utmost importance to the economic and human development of nation states, and of particular pertinence in the developing world. There is strong evidence that links economic growth in terms of GDP in developing countries to growth in both spending and participation in schooling. In turn, that investment in school systems will lead to future economic pay-offs (Miller, n.d.; Hanushek & Wobmann, 2007). In addition to the yields from human capital gains, quality educational services cultivate socially important capabilities, such as citizenship, and can create a more stable and inclusive society (Sen, 1984). However, achieving an acceptable quality of education remains elusive for most developing countries. 77 million school-age children are not enrolled in educational institutions as of 2007, and of those children who manage to graduate do so without acquiring basic numeracy or literacy skills (UNICEF, 2007). There are various cultural, socio-economic, and financial components to providing quality education, and governments of developing countries and international organizations are struggling to find the appropriate and most cost-effective means to improve the quality of education for all.

This study endeavors to illuminate one approach to alleviating the “education problem,” namely by raising the levels of teacher self-efficacy through an in-service professional development program operated by a non-governmental organization (NGO). This introductory section serves to guide the reader on how self-efficacy fits into the larger education planning framework and elaborates on the purpose of the study.

² There are three different interpretations on the meaning of “quality” education. First, the conservative definition equates the quality to access to a school. The liberal definition asserts that every student has equal inputs, such as attending schools that receive the same amount of state funding. The progressive definition believes every student should have equal educational outcomes, measured by student achievement levels.

Figure 1.1 Importance of Self-Efficacy for Quality of Education



Components of teacher quality: content knowledge, pedagogy, self-efficacy

The quality of education a student receives is arguably most influenced by the teachers who provide the educational services and interact with the students on a daily basis. As street level bureaucrats implementing the government’s education plan, teachers and the quality of instruction are directly responsible for students’ learning and achievement. Moreover, quality teaching has repeatedly been demonstrated as a critical factor in influencing student academic and social outcomes, eclipsing the substantial effects of an educator’s innate intelligence and social background³ (Darling-Hammond, 1999). Becoming adept at teaching is largely dependent

³ Darling-Hammond finds in the NAEP data that teacher quality characteristics, such as certification status and degree in the field are very significantly and positively correlated with student outcomes. In contrast, studies quoted by the author revealed only small and statistically insignificant relationships between teacher performance and measure of teachers’ intelligence.

on three factors. First, educators must possess knowledge of the subject in order to relay the material to the students accurately. Second, pedagogy is critical in communicating the content in a way that allows the students to grasp and maintain interest in the subject at hand. Third, teachers should have the self-confidence to overcome any challenges on the job and ultimately execute their responsibilities. This last factor, also known as self-efficacy, is the focus of this research because in low resource areas, the teachers and their belief in their abilities to overcome challenges are often the only tools available to make an impact on the quality of education.

According to the education psychology literature, there are two schools of thought on the concept of teacher efficacy. The first branch traces back to the works of Rotter (1966) and the RAND Corporation, where two types of efficacy were defined. The first, known as General Teaching Efficacy (GTE), refers to teachers' beliefs that external factors are more influential in student learning than the personal influence of teachers. This low locus of control indicates a belief in that the only mechanism to affect student achievement and quality of education is through broader education reform. Especially in the context of developing countries, where states face a myriad of other crises, these 'external factors' are not likely to be addressed in the near future.

Conversely, Personal Teacher Efficacy (PTE) maintains that the consequences of teaching are internally controlled. Grounded in social cognitive theory and similar to Rotter's PTE framework, Bandura (1995) defines self-efficacy as the "capability to organize and execute the course of action required in order to manage prospective situations." Building on this definition, Tschannen-Moran et. al (1998) approach teacher self-efficacy as a "teacher's judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those who may be difficult or unmotivated." Because the PTE framework asserts, among other outcomes, that student performance is associated with teacher efficacy

levels, this paradigm allows for meaningful teacher-level interventions as a means to improve the quality of education.

Researchers in the education sector show that self-efficacy can be a learned skill, as evidenced by the teacher education and professional development programs used as a means to raise self-efficacy levels (Elmore, 1997; Villegas-Reimers, 2003). While self-efficacy gains are not the sole or stated objectives in most of these teacher training programs, they are widely recognized as a positive by-product. However, the conventional models of teacher education—pre-service teacher training programs and large-scale in-service teacher training schemes—have proven to be unsustainable and rarely translated into instructional gains. Instead, cluster-based and in-service programs at schools are more promising alternatives for their cost-effectiveness and direct impact on the community. This research provides a case study of one such in-service teacher training program in Cape Town and investigates whether self-efficacy was indeed a positive by-product of its program.

Research questions

The research endeavors to answer the following two questions:

1. What are the levels of self-efficacy of primary school teachers in the Metro South district in Cape Town?

As the background sections in Chapter 2 and 3 will reveal, educators in disadvantaged communities South Africa, and specifically Cape Town, face a plethora of challenges on the job that may be suppressing their self-efficacy. Measuring teachers' current levels of self-efficacy will either confirm or reject my hypothesis that self-efficacy is low among the teaching population because of the perceived challenges of working in township schools.

2. To what extent does the Cape Town Teacher Training Program (CT3P) influence teacher self-efficacy?

As an exploratory study of the impacts of one NGO, the research has its merits despite its limitations in scale. The study offers an original insight and objective evaluation that fills a gap in the current body of education reform literature. According to Hoppers (2005), data and external evaluations on the effects of NGO-run programs are scarce. While monitoring and evaluation reports are undertaken by NGOs or development agencies sponsoring specific programs, these reports are necessarily limited to issues considered relevant to the sponsors. This research documents an independent and systematic review of CT3P theory of action, found in Chapter 5.

Importance/implications of research

Teachers and the quality of instruction they provide are one of the most critical factors in improving the quality of education in developing countries where there are obstacles in every form and scale, internal and external, to overcome. In order to be effective, teachers in challenging environments must not only be knowledgeable in their subject matter, but also have the self-efficacy to execute their lesson plan, manage the class, and discipline students to ultimately provide a high quality educational experience. Research has shown that raising teachers' self-efficacy levels is correlated with more innovative pedagogical practices, enhanced self-efficacy of the students, and higher student achievement (Allinder, 1994; Tschannen-Moran et. al, 1998). These results support the basis of social development theory, which assumes that the education system has enough autonomy from society to challenge existing norms and catalyze development. In accordance with social development theory, the positive outcomes of improving teacher self-efficacy should produce a more stable, inclusive society (Sen, 1984).

In an even broader scale, teacher self-efficacy is a critical component for effective planning. The solutions proposed by planners who tackle large scale issues such as national education reform usually include changes to institutions. However, restructuring institutions may

not be enough to bring about real and sustained change to the status quo. In order for those new rules and norms to be realized properly, planners need to rely on the street level bureaucrats and frontline workers, such as teachers, to implement these changes. In a society such as South Africa where its population suffered generations of oppression and inequality, it is paramount for education planning and reform efforts to involve educators. Otherwise, those teachers who were educated under apartheid will not possess the tools to adjust and effectively integrate the changes to their teaching practices, as evidenced by the Outcomes-Based Education fiasco discussed further in Chapter 2. Planners who consider tackling education reform at the individual level by promoting teacher self-efficacy are then transitioning teachers out of a traumatic past as victims of injustice into champions who believe they can master the challenges they face.

One solution to raising self-efficacy levels may lie in the findings and recommendations in the case study on the CT3P teacher training model. On the one hand, there was no statistically significant difference between groups. On the other hand, the interviews reveal that trained teachers perceived an impact from CT3P on their self-efficacy. Ultimately, the findings are inconclusive, and at most, conflicting. This study calls for further exploration of alternative methods the internal and external causes of low teacher self-efficacy and proposes improvements to further this research in Chapter 8.

Limitations of the study

This study is limited in its scope and sample size. At the time of the field visit, a nationwide teachers strike began, closing down many schools in the poorest townships and limiting the number of teachers to participate in the research (Retrieved from Bloomberg News, 2011). Moreover, a large portion of the non-striking schools was administering teacher evaluations, which further limited access. After taking into account accessibility and security concerns as well, I visited only five schools in each group (Cohen, 2010). The sample of

educators included in this research paper is not randomly selected and reflect the views of primary school teachers who teach in coloured neighborhoods in the Metro South district. Thus, it is important not to over-generalize the results of the statistical or qualitative analysis to a broader context.

Conclusion: overview of proceeding chapters

The remainder of the study is divided into seven chapters. Chapter 2 provides a historical context of the transitions in the education sector in South Africa that helps explain why teacher self-efficacy is an important factor in order to achieve quality education. Chapter 3 delineates the main research questions and methodologies of this study, describes the unique education system of the Metro South district to better understand the context of the research questions, and provides a rationale for the decisions made carrying this research forward. Chapter 4 offers a literature review on studies examining the impact of teacher self-efficacy on elevating different educational outcomes and assessing in-service training models as a means to target self-efficacy. In Chapter 5, I examine the theory of action of the CT3P training program and support my hypothesis on the effectiveness of the program in raising self-efficacy. Chapter 6 presents the statistical analysis of the survey data and interprets the findings. Chapter 7 layers the quantitative analysis with narratives from the interviews with teachers. The study concludes with Chapter 8, which remarks on the policy implications of the research findings and recommendations for future studies.

CHAPTER 2. BACKGROUND

Summary

The current South African education system and its challenges to provide quality educational services are a testament to the country's embattled history of apartheid. This section first provides a historical narrative of the educational policies that shaped the current education system. Next, I examine how South African learners are faring compared to their international counterparts as a result. The section then transitions to discuss the perspectives of different stakeholders regarding the South African educators' role in this educational crisis. On the one hand, a group of parents, administrators and government officials have been blaming teachers and unions for poor professionalism and therefore, for causing the lack of quality in schools. The costs of absenteeism and under-qualified teachers in the system are examined to support the critics' arguments. On the other hand, supporters argue that inadequate resources and poverty-related conditions are setting up the students and teachers up for failure. The external, burdensome challenges that educators encounter as sources of lower job satisfaction, absenteeism, and self-efficacy offer evidence to support the opposing argument. The section concludes with two main research questions that have guided the direction of research and analysis.

History of key South African education policies and changes in the education system

1948 marked a historic turning point in South Africa, when Afrikaners usurped control of the government from the ruling English class. The new powers implemented the Bantu Education Act of 1953, which among other reforms taught "Bantu" (African) children that European supremacy was a fact of life. The racist government imposed their ideologies by spatially and economically segregating opportunities. But it was mainly through education disparity that the apartheid regime reinforced non-whites to be in "accordance with their

opportunities in life according to the sphere they live in” (Johnson, 1982, p. 219). Funding for the separate Bantu schools was reduced dramatically, leading to overcrowding in already dilapidated facilities reserved for non-whites (*ibid*). Education was neither free nor compulsory for non-white students – a reality that led to high dropout rates among the black and coloured⁴ populations. For over 40 years, the apartheid regime used such discriminatory education policies to further its racist agenda and to maintain the prevailing social order.

When apartheid officially ended in 1994, the democratically elected African National Congress (ANC) administration inherited a fragmented and unequal education system. At the time of transition, non-white students received one-tenth of the bursaries afforded to whites and were educated in classrooms with 56:1 student-teacher ratios (Hartshorne, 1992).⁵ The quality of teaching staff also differed—

roughly a third of all white teachers had a university degree, the rest had all passed the Standard 10 matriculation exam. Only 2.3% of black teachers had a university degree, and 82% had not even reached the Standard 10 matriculation (more than half had not reached Standard 8) (Boddy-Evans, 2001).

The incoming ANC party attempted to rectify the profound inequalities that resulted from previous policies by passing progressive ones, such as the “Yellow Document”⁶ and establishing the South African Qualifications Authority.⁷ The intention was to renew and restructure the South African education system by improving existing deficiencies, making education more affordable, and creating education and training opportunities (Cross et. al, 2002). However, such policies failed to go “beyond the visionary and symbolic expression of the ANC's commitment to

⁴ Coloured is a designation of race used during apartheid, a term reserved for anyone who was not white or ‘African.’ While this term is no longer formally recognized, it is used colloquially and applied here for its historic connotation. Also, black refers to those of ‘African’ descent or associated with a tribe.

⁵ For example, in 1982, the apartheid government of South Africa spent an average of R1,211 on white students, compared to R146 for black and coloured students (Boddy-Evans, 2001).

⁶ Also known as the Reconstruction and Development Program (RDP) & ANC Policy for Education & Training, the Yellow Document emphasized values denied by the apartheid regime such as equality, increased participation and democracy, redress and equity.

⁷ The purpose of this body was to create qualifications system for training and education policies.

equity, redress, and redistributive ideals [or to] renew and restructure the South African [education] system" (*ibid*). In other words, the policies set forth by the ANC were more symbolic than substantive in equalizing the access to quality education across the different racial groups.

The most salient shift in the post-apartheid education system came five years ago, when the ANC introduced the Outcomes Based Education (OBE) model.⁸ Also known as Curriculum 2005, OBE was proclaimed the panacea for improving the quality of and addressing the demands for a skilled work force (Botha, 2002).⁹ However, Curriculum 2005 was repealed just five years later in June 2010 amid more criticism of its ineffectiveness (Cross et al., 2002). Some critics believe that OBE is a western concept that was hastily borrowed and implemented without properly accounting for the South Africa's unique historical, political, social, and cultural context. In addition, education experts argue that the reform placed a limited focus on education, with an over-emphasis on learner test taking.

The failure of OBE in South Africa is a classic example of what happens when planners attempt to change institutions without the buy-in of street level bureaucrats. Most critics agree that, in retrospect, the lack of collaboration among key stakeholders during the curriculum development process caused the collapse of OBE. Teachers who were educated under the Bantu education system were unprepared to adopt the new methods of teaching. To make matters worse, the state offered no formal, systematic training. As a result, educators merely felt overburdened by the additional administrative duties. OBE failed to rectify apartheid's legacy of inequitable education opportunities by systematically favoring well-resourced schools with academically qualified teachers. Thus, the OBE debacle relays an important lesson that it is paramount to engage frontline workers during any process of education reform.

⁸ OBE is a student-centered learning philosophy that focuses on empirically measuring student performance, compared to traditional education methods that primarily focus on the resources that are available to the student.

⁹ The education literature has many examples of interventions that they hope will be the magic bullet that fixes all problems. Most recent examples include conditional cash transfers and educating 21st century skills.

Post-apartheid education compared to international benchmarks

Following a series of failed policy measures, combined with a history of systematic inequality, the current state of the post-apartheid education system is considered a national disaster (Retrieved from Economist.com, 2011). The South African government spends the highest share of its GDP in the education sector than any other country on the African continent, yet its students' achievements are among the worst (*ibid*).¹⁰ In 2009, 334,718 (or 24%)¹¹ of the 1.4 million learners¹² that entered the education system in grade one completed the National Senior Certificate in the standard 12 years (Retrieved from News24.com, 2011). Furthermore, despite the fact that the state is on track to achieve universal primary education, the results of the national assessment of Grade 3 learners (in 2001) and Grade 6 (in 2004) remain lackluster.

Scores for the Grade 3 learners averaged 68% for listening comprehension, but only 39% for reading comprehension and writing, 30% for numeracy, and 54% for life skills... Learners [in Grade 6] averaged 38% for language, 27% for mathematics and 41% for natural sciences (Department of Education, 2003; Department of Education, 2005a).

Comparing the South African learners' performance to their international peers places their poor achievements into perspective. On most international assessments, South African learners often perform at or near the bottom in rankings on literacy, numeracy, and other subject assessments. For example, learners scored approximately 220 points lower in mathematics and science than the international average as measured in the Trends in International Mathematics and Science Study (TIMSS) (Department of Education¹³, 2008).¹⁴ They performed slightly better in the South African Consortium on Monitoring Education Quality (SACMEQ) II project,¹⁵

¹⁰Public investment in education accounts for 5.3% of gross domestic product (GDP) and 20% of total state expenditure, one of the highest rates in the world. (www.southafrica.info/about/education/education.htm)

¹¹ Figures are based on the 2009 matriculation results

¹² In South Africa, teachers are referred to as educators. Students are called learners. These terms will be used interchangeably throughout the paper.

¹³ Hereafter referred to as DoE

¹⁴ See Appendix A, Table 1

¹⁵ Fourteen Ministries of Education (Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Zanzibar and Mainland), Uganda, and Zambia) completed the SACMEQ II Project. The project involved around 40,000 students, 5,300 teachers, and 2,000 school heads from

where the average reading and mathematics scores were less than one standard deviation below the pre-determined overall pupil mean (*ibid*).¹⁶ However, in another international study, South Africa scored the lowest average in numeracy, the fifth lowest in literacy, and the third lowest in life skills out of 12 countries (*ibid*).¹⁷

Problem of teacher quality and professionalism

While poor learner performance and the quality of education the students receive can be attributed to a variety of factors and actors, teachers are often blamed exclusively. In particular, the international development field has criticized the prevalence of poor professionalism and chronic absenteeism in the global South (World Bank, 2010; Banerjee et. al, 2005). In South Africa, there is a strong perception that teachers are lazy, unprofessional and uncommitted (Steyn & van Wyk 1999). Anecdotes of principals searching for vagabond educators, loafing in the back of another class, and escorting them back to their own classrooms have been sensationalized in newspaper articles (Dugger, 2009). Labeled as corrupt, teachers are also accused of abusing their “sick” or paid absence days, leaving student leaders to fill in their teachers' roles.

The pervasiveness of this type of “quiet corruption”¹⁸ translates into real costs to the government and devastating consequences to a learner’s educational experience. On average, 20 to 24 days are lost per educator annually in South Africa, compared to an average of 14 days per teacher lost annually in the United States (Province of the Eastern Cape, 2010). Further, an analysis of the SACMEQ II project shows that teacher absenteeism is not only pervasive in the

2,000 primary schools.

¹⁶ The researches performed a linear transformation of the reading and mathematics scores in order to standardize the mean and standard deviation of pupil scores for the SACMEQ II Project to 500 and 100, respectively (for the pooled data with equal weight given to each country). As a result, a score of 500 was equal to the average of all SACMEQ II Project country mean scores. See Appendix A, Table 2 to evaluate how South Africa ranks in comparison to other countries.

¹⁷ The assessment was called the Monitoring Learning Achievement project. See Appendix A, Table 3

¹⁸ More commonly referred to as petty corruption, quiet corruption indicates various types of malpractice of street-level bureaucrats such as teachers that do not involve monetary exchange. See World Bank, 2010 for more.

least affluent populations, but also affects 26% of the schools in the most affluent quintile (van der Berg et. al, 2006)¹⁹. The same study shows the negative effect of teacher absenteeism on students' mathematics scores is "very large (approximately 82-point test score penalty) and highly statistically significant" (*ibid*).

The qualification of educators is also often cited as a major concern in the South African education system. In 2005, between 8.3% and 16% of schools in South Africa were staffed by under-qualified professionals;²⁰ these cases were disproportionately concentrated in primary schools and rural areas (DoE, 2008). In addition, under-qualified educators were especially acute in the field of mathematics and sciences (Silva, 2010). In the United States, studies show that teacher preparation and certification are by far the strongest correlates of student achievement in the fields of reading and mathematics (Darling-Hammond, 1999). The South African Ministry of Education (2000) observed similar correlations between unqualified and under-qualified educators and the negative impacts on the quality of teaching.

Addressing challenges teachers encounter

However, solely blaming educators for the underperformance of students is neither a productive nor useful exercise. Given that South Africa has one of the highest levels of teacher unionization, such realities make it difficult for governments to fire underperforming teachers.²¹ Moreover, there is a chronic shortage in a supply of qualified educators given that most current teachers were educated under the inferior Bantu system during apartheid. Instead of passing the blame to educators, the government should address the underlying causes of poor professionalism and empower the educators to tackle the challenges that they encounter in their disadvantaged environments. Drawing from South Africa-specific publications, this section

¹⁹ See Appendix B, Figure 1 on proportion of schools reporting a teacher absenteeism problem

²⁰ Here, I define under-qualified as lacking a teaching certification awarded by a college or credentials recognized by the DoE

²¹ 88% of government teachers are unionized (teacher.org, n.d.)

highlights a variety of exogenous socioeconomic and administrative variables that educators have identified as impediments to their abilities to execute lessons and teach effectively.

One source of contention conveyed by educators is the disconnect between the expectations of the South African Ministry of Education and the realities of the multiple responsibilities and challenges faced by teachers in the classroom. Educators from the Wood & Olivier (2008) study complained about the overload of administrative paperwork that stemmed from OBE mandates. Some teachers argue that copious paperwork was a counter-productive burden that took away valuable time that could have otherwise been spent planning lessons or reaching out to parents. The authors (2007) also found that “teachers struggle to cope in their under-resourced environments and find it difficult to implement the innovations introduced by Outcomes Based Education curriculum.” With the recent repeal of OBE, some of the frustrations associated with the burdensome administrative work should be alleviated.

Teachers also identified local external factors, especially lack of parental support, as hindrances to their work. Due to a lack of education, debilitating social issues, substance abuse, or full-time employment, parents are not likely to be involved with their child's education (Wood, 2004). In fact, “lack of parental involvement seems to be the norm rather than the exception in South African schools, at least in those situated in disadvantaged communities” (Christie & Potterton, 1999). In the absence of positive role models at home, learners are prone to the influence of gangs and drugs, ubiquitous in township communities. If they have not already dropped out of school, learners who continue to attend school are more likely to display behavioral problems and struggle to concentrate on their schoolwork.

Educators in South Africa admit to lacking the skills, proper tools or training to effectively address such behavioral issues that stem from larger social problems outside the school environment. Especially in large classroom settings, educators find it difficult to pay

special attention to learners with any learning disabilities. Moreover, due to the recent prohibition of corporal punishment in schools, teachers have found it harder to maintain discipline in class (Ngidi & Sibaya, 2002). For some teachers, the hostile environment created by the students has gotten to a point where the teachers fear for their own safety (Steyn & van Wyk, 1999). The unmanageable behavior of the students and limited disciplinary options contribute to a frustrating teaching environment and depreciate the amount of learning for all students.

The challenging environments in which teachers work, characterized by poverty, violence, conflict, and bureaucracy, have had a significant psychological impact on teachers, especially with regard to job satisfaction, burnout, and self-efficacy. Researchers found that South African educators feel high levels of dissatisfaction with their jobs, identify schools as hostile environments, and note low morale both personally and among their colleagues (Chisholm, 2009). In one survey, more than 55% of educators have considered leaving the education profession “due to inadequate remuneration, increased workload, lack of career development and professional recognition, dissatisfaction with work policies, and job insecurity” (Hall et. al, 2005).²² Educators also “tended to experience helplessness and frustration because they didn't know how to approach or deal with prevailing problems, such as general lack of parental involvement, undernourished and hungry children, and overcrowded classes” (Wood, 2008).

Research question and hypotheses

The combination of these stressors are causing teacher to lose their sense of professional and personal identity, reducing the belief in their own abilities to overcome the multitude of challenges that they face (*ibid*). This loss of self-belief, also known as self-efficacy, impedes the teachers' ability to acquire the skills, knowledge, attitudes, and values required of them to be

²² The Human Sciences Research Council (HSRC) of South Africa conducted a national survey of 21,358 educators in more than 1,714 randomly selected school; 97% of educators agreed to participate.

positive role models and to execute their teaching responsibilities effectively. For learners who are already deprived of positive role models, the loss of teacher self-efficacy is a devastating blow to the quality of education they can expect to receive.

While the literature suggests a lack of self-efficacy among teachers in South Africa, I investigated whether this general statement is true for those teachers who teach in predominantly coloured township schools in Cape Town. Thus, the first research question of this paper seeks to measure the perceptions of township teachers regarding their own ability to overcome challenges, specifically related to student performance, classroom management, school decision-making and colleague interaction, and parental and community engagement. Wood (2004) notes that educators from disadvantaged environment do not think that they can successfully teach and prepare all learners for life after school because of the “mutually disempowering conditions in which they find themselves and from which they have little hope of escape.” Given the acute challenges teachers who work in disadvantage areas face, I postulate that teachers would have low levels of self-efficacy

In general, there are no interventions that specifically and solely target raising teacher self-efficacy levels, with the exception of Wood and Olivier’s study (2008), chronicled in the literature review. However, in-service teacher training programs are documented to have an impact on teachers’ beliefs and behavior and are commonly, though not necessarily sufficiently, available for teachers (Frankes et. al, 1997). The main service provider of in-service training programs is the provincial governments’ Departments of Education. Yet one of the main complaints from educators is the lack of training available and the inadequacy of such programs. In developing countries, it is common to find private and non-for-profit entities to provide their own professional development programs either in conjunction with or as a substitute for government-run programs (Pendlebury, 1998). Thus, the second research question aims to

investigate a specific type of teacher training program offered by CT3P and attempts to uncover the extent to which this NGO's program influences the level of teacher self-efficacy. I predict that teachers who participated in the CT3P in-service training program would have positive and statistically significant impact on levels of teacher self-efficacy. Similar teacher training programs found that their participants became committed to doing justice to their profession and acting as change agents in their schools and communities.

Conclusion

Thirteen years into post-apartheid South Africa, the education sector still faces a shortage of qualified and efficacious teachers, reflecting a fundamental crisis in an education system that sorely lacks the resources necessary to adequately equip a nation for future growth (Retrieved from News24.com, 2008). Supporting the current cohort of Bantu-educated educators through appropriate training intended to raise their levels of self-efficacy is paramount for the successful implementation of any education reform measures. The next chapter delineates the research context, methodology, and how it relates to South Africa's teacher self-efficacy efforts.

CHAPTER 3. RESEARCH CONTEXT AND METHODOLOGY

Summary

This study on teacher self-efficacy was conducted in the Metro South, a peri-urban cluster of coloured townships in Cape Town, for several academic and personal reasons. First, South Africa's history with apartheid created a unique, complicated set of educational challenges that teachers must overcome to possess the self-efficacy to provide quality instruction. Second, it appears that teacher self-efficacy is a concept that is just beginning to enter the education circles in South Africa.²³ There are some published articles regarding teacher self-efficacy in South Africa (Wood, 2008; Wood, 2007; Steyn & van Wyk, 1999), but none have focused on teachers in disadvantaged areas specific to the Cape Town metropolitan region. The added advantage of this study is its mixed methodology approach to understanding self-efficacy in Cape Town, compared to the aforementioned articles that utilized only qualitative methods. Third, my personal affiliations with the NGO, previous travels to Cape Town, and financial constraints narrowed the scope and scale of the research project. This section establishes the context of the research by delving into the educational structure of the Western Cape. In addition, this section provides an overview of the research design and methodology, explaining the rationale and limitations of both.

Education quality in the Western Cape

The City of Cape Town (hereafter referred to as the City) is situated on the Cape Peninsula in the western coast and is recognized as one of the most beautiful cities in the world. For South Africans, however, the City is better known for providing the nation's highest quality of public educational services. The Western Cape Education Department (WCED), a provincial

²³ This is based on emails sent to various researchers at HRSC and faculty members in Education Departments at the University of Cape Town, University of the Western Cape, Nelson Mandela Metropolitan University, University of South Africa

body that manages Cape Town's primary and secondary schools, has consistently yielded high levels of student achievement compared to the other educational districts. For example, pupils in the WCED tended to surpass the national average pass rates on literacy and numeracy exams.²⁴ In addition, the WCED was crowned the top province for their proportion of seniors who passed the matriculation exam (WCED, 2011).

The City's progressive history during apartheid and smart economic decisions partly explain the WCED's success in student achievement, relative to other provinces. First, the City had a larger proportion of coloureds in their population, many of whom maintained positions of political power and were permitted in intellectual circles. Thus, there was a greater sense of tolerance for non-whites compared to the rest of the country, despite the segregation that remained in schools. Second, this tolerance may account for why Cape Town became the center of resistance movements for students, trade unions, and civil bodies. The pressure from the rebellions and demonstrations forced Cape Town to reduce the inequalities amongst the races, especially in education as evidenced by the frequent student uprisings in the townships. Third, the City of Cape Town was able to maintain a healthy and stable economy, mainly by promoting itself quickly post-apartheid as the top destination for investment and foreign direct investment in the country (City of Cape Town, 2011). As the second richest city in South Africa and a relatively large affluent population, the City has had more access to resources to invest in their education sector.

A profile of the Metro South District

The WCED divides the City of Cape Town into eight separate districts. Half are designated as "rural" districts, while the other four districts are "urban" or "Metro" districts (WCED, 2011). Due to the limitations in resources and time explained later in the methodology

²⁴ WCED pupils passed, on average, 3% higher compared to the 2010 national average pass rates in literacy and numeracy.

section, this research is restricted to the primary schools and teachers in the Metro South district. The Metro South district²⁵ is located east of the City bowl in the Cape Flats and consists of predominantly coloured townships,²⁶ including Mitchell's Plain, Phillippi, Manenberg and Grassy Park. During apartheid, this region was developed in the 1970s to accommodate coloured victims of the Group Areas Act. Once considered a model township area, the Metro South area is now notorious for rampant addiction to a drug called tik,²⁷ gangsterism, and violence. The adults in the communities tend to be uneducated,²⁸ earn less than the City's annual median income, and are more likely to abuse alcohol (UNDOC, 2008; Davids, 2011). While statistically not the worst area to attend school, the Metro South district has a multitude of social and economic problems that may directly or indirectly impact a teacher's self-efficacy. The interviews analyzed in Chapter 7 reveal in detail the types of challenges the teachers attempt to cope with everyday.

Teacher training in the Western Cape

In an effort to support teachers, Western Cape Education Department (WCED) offers in-service training through the Cape Teaching Institute (CTI) and district offices. CTI can accommodate up to 50 teachers at a time for training sessions that last six to eight weeks. During this time, the WCED arranges for substitute teachers to take over the participating teachers' classes. However, there is a serious lack of capacity to accommodate all teachers employed in the City who want to partake in this training. Additionally, this centralized process is not well known by most township teachers. The literature, further discussed in Chapter 4, also suggests that solely training teachers without principals or those with decision-making authority makes the training less effective.

²⁵ See Map of Cape Town (insert in Appendix)

²⁶ According to the 2001 Census and 2006 Subcouncils data, 92% of the population is coloured.

²⁷ Tik is a derivative of crystal meth. According to the UNDOC, the increase in the use of tik is now considered an epidemic.

²⁸ Over 70% of the adult population did not reach the 12th grade to matriculate.

Supplementing the government's efforts to train teachers are NGOs such as the Western Cape Primary Science Programme Trust (PSP) and the Cape Town Teacher Training Program (CT3P). This paper provides a case study of one of the NGOs, the CT3P. While self-efficacy is not one of the stated goals of the CT3P, the literature suggests that teacher training programs can still be effective in impacting levels of self-efficacy. The following section outlines the methodologies employed, demonstrates the sampling mechanism, and profiles the schools in the sample.

Research Methodology

In almost all research related to teacher self-efficacy, the main methodology utilized to probe different facets of self-efficacy is either semi-structured interviews with teachers or implementation of surveys (Henson, 2001). According to Tschannen-Moran and Hoy (in press), quantitative measures contribute to our understanding with a snap shot of the efficacy beliefs of a large number of teachers at a particular point in time. The resulting evidence is easy to compare and interpret. However, qualitative studies of teacher efficacy are overwhelmingly overlooked and undervalued. Experts argue that interviews are much more powerful methodologies in capturing the nuances of the situation or context in which the participant teaches compared to surveys (Wood, 2004). Moreover, interviews and observational data can provide a thick, rich description of the growth of teacher efficacy. This research is an interpretive case study that employs both qualitative investigations and quantitative methodologies to understand the process of developing efficacy.

Measuring a psychological factor such as self-efficacy is a tricky process that depends on the quality of self-reported surveys. Some researchers have noted the Teacher Efficacy Scale (TES) developed by Gibson and Dembo (1984) as the standard instrument in the field, but others argued that the questions on the TES resembled locus of control theory rather than self-efficacy

theory (Henson, 2001). There is an overall consensus, however, that any scale measuring self-efficacy must take into account the context and yet be generalizable enough to have an analytical purpose beyond the sample.

The survey instrument for this research, which served as the data source for the statistical analysis in Chapter 6, drew heavily from Bandura's teacher self-efficacy scale (2006). In his guide, Bandura emphasized that the first step to constructing a scale that assesses self-regulatory efficacy requires preliminary work to identify the challenges and impediments specific to the context of the study. This was achieved through extensive literature review of the work conditions in Cape Town and my personal experiences in the field. The different types of efficacy measures include the efficacy to: influence decision making, school resources, and instruction, and discipline; enlist parental and community involvement; and to create a positive school climate. Once the identified challenges or impediments are built into the scale as efficacy items, the scale should be created to have sufficient gradations of difficulty in order to avoid ceiling effects. Bandura's teacher efficacy scale (2006), found in Appendix C Figure 1, has educators rate the strength of their belief in their ability to execute the requisite activities on a 100-point scale, ranging in 10-unit intervals.

The instrument constructed for this study is different from what Bandura proposes in two ways. In contrast to Bandura's proposed 100-point scale, this survey instrument uses a 1 to 5 Likert scale.²⁹ Although Bandura (2006) stated, "scales that use only a few steps should be avoided because they are less sensitive and less reliable," the scale used for this study was shortened in order to simplify the survey. Also, compared to the original 31-item instrument, the number of questions in this questionnaire was condensed to 22 items that were judged most relevant. Both these changes took into consideration the time constraints, as it was recommended

²⁹ 1 – very unconfident; 2 – somewhat unconfident; 3 – neutral; 4 – somewhat confident; 5 – very confident

by community workers from CT3P that the survey should take no more than 15 minutes. The questions on the survey are all stated positively and answers variations of, “How confident are you [the teacher] in your ability to...” followed by a challenge of interest. For example, question #2 asks, “How confident are you in your ability to motivate your top 10 students?”³⁰ In addition to the self-efficacy related questions, the first page of the survey requests biographical information of each participant.³¹

To test the validity of the survey and refine questions, the first draft of the questionnaire was sent to 27 teachers at Kannemayer Primary School using an online platform. This draft included two additional questions asking whether what the teachers thought about the length of the survey and if any questions were irrelevant to them. When revising the instrument, the following criterion set forth by Bandura (2006) was taken into consideration:

- ***Does the self-efficacy appraisal reflect the difficulty individuals believe they can surmount?*** If all the interviewees respond to a given statement that they are very confident, this indicates that there are no obstacles to overcome. Then, the activity is easily performable and everyone is highly efficacious. If this is the case, the statement should be considered ineffective in measuring self-efficacy and be thrown out.
- ***Do the statements in the appraisal reflect the real and relevant difficulties faced by teachers?*** The instrument must make sure the statements reflect the true environment and challenges faced by the teachers.
- ***Does the appraisal judge the current operative capabilities of the individual?*** Self-efficacy should not measure people’s judgment of their potential or expected future capabilities, but rather should be a snapshot judgment of their current capabilities.

³⁰ See Appendix A, Table 5 for list of survey questions and response percentages

³¹ Teacher-level biographical data include: age, gender, years of teaching, years of teaching in current school, highest level of education, grade level, subject of expertise

The 22 original questions passed the pilot phase, although the wording of some of the questions was changed to simpler diction. The only other alteration was the method of implementation; due to the initial low response rate on the online version of the survey (5%), all following surveys were filled out on hard paper copies on the day of the school visits.

In addition to the survey, I conducted a 20-minuted semi-structured interview with 20 educators. In most schools, 2 of the 12 survey participants at each school were randomly selected to participate the interview. The questionnaire consists of 8 to 10 questions and was constructed to begin with broad questions, such as their reasons for becoming a teacher, to ease into the conversation.³² The questions then transitioned to asking about the educators' perceptions of the types of challenges they face, the ways in which they personally overcome these challenges, and what would help them become more confident in their abilities. For those interviewees who participated in CT3P, I asked additional questions on the benefits of their training especially on influencing their self-efficacy.

Sampling

The survey was implemented to three cohorts of primary school teachers: those who went through the CT3P training course (trained); teachers at the same CT3P-affiliated schools without training (non-trained); and a control group of teachers at comparable township schools without CT3P affiliation (control). It is important to note that because educators volunteer for the CT3P training, there may have been a self-selection bias in the first cohort. In other words, those educators who chose to receive training may have already been the most self-efficacious teachers in the school. To account for this potential bias, the teachers selected for the control group in similar, neighboring schools were selected under similar circumstances. Only 6 educators at the control school who were interested in participating in a program such as CT3P completed

³² See Appendix, to see interview questionnaire

surveys. Thus, a comparison between the trained teachers and control group will more accurately reflect the impact of the training on the teachers' self-efficacy. A second comparison between non-trained teachers and teachers in the control group will offer insights into the different levels of self-efficacy between non-participatory and self-selecting teachers in township schools.³³

Ideally, this research would endeavor to include every teacher in the townships of Cape Town. For feasibility reasons, the sample population was limited to teachers in primary schools in three predominantly coloured neighborhoods in the Metro South District. A total of 10 schools—half of which are CT3P-affiliated—and 81 out of 222 educators (or 36.5% of all teachers employed in those 10 schools) are included in this study. The control groups were selected based on their spatial proximity and similarities in terms of poverty quintile, school fees, enrollment rates, and student-to-teacher ratios.³⁴ I scheduled visits to these schools a day or two in advance by receiving approval from the principal. The visits lasted approximately two hours, beginning with an informal interview with the principal. The surveys were then distributed to 12 teachers (6 trained, 6 non-trained) in CT3P-affiliated schools or to 6 teachers at control schools. Because all 81 surveys were completed and collected on the same day, the response rate of the survey was 100 percent. I followed up with 1 to 3 educators with an interview in a secure location, maintaining the confidentiality of the interviewees' responses. I then returned to the principal's office to collect information on the individual educators' class size and their students' pass rates. The data collection process was in line with the MIT-approved COUHES research protocol.

School profiles

Bandura (1986) proposed that self-efficacy beliefs are context-specific rather than a generalized expectancy. Consequently, teachers' sense of efficacy should be examined in

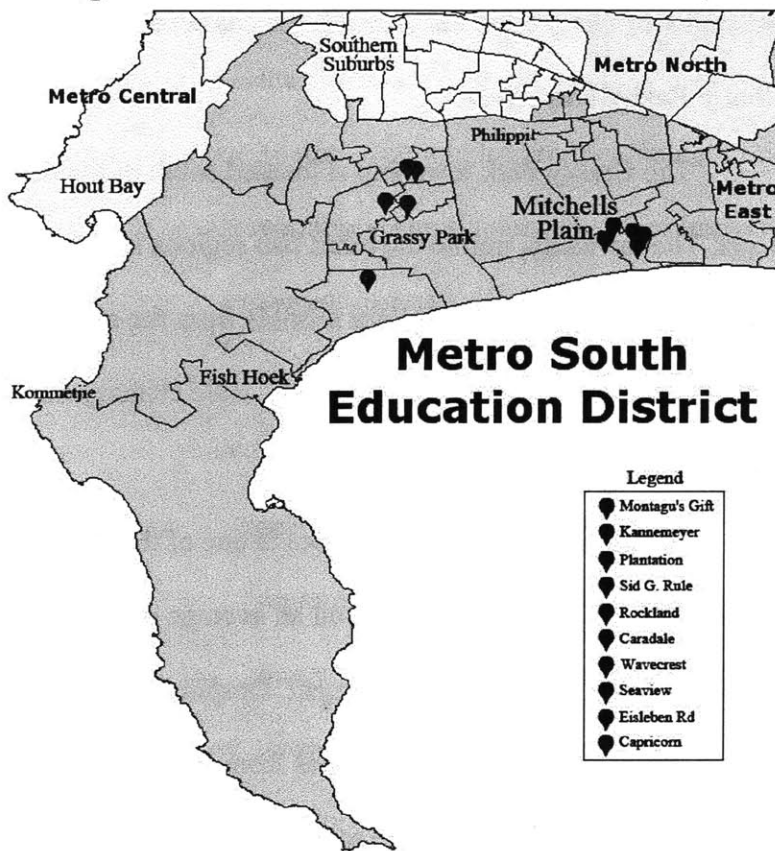
³³ Non-participatory to connote that the non-trained teachers in EMEP-affiliated schools did not volunteer to join the CT3P teacher training program when they had the opportunity.

³⁴ See Appendix A, Table 6 to see school-level data.

relation to a number of school-level variables, such as climate and structure of school, leadership of principal and collective efficacy of organization (Tschannen-Moran et. al., 1998). The profiles of the 10 schools provide initial clues as to how the specific context may impact the development of teachers' self-efficacy beliefs. Table 6 in Appendix A depicts in detail the numeric attributes of the schools while Figure 3.1 below shows the location of each school.

In general, the characteristics of the schools in the sample are similar across the board, although with some variation. The schools are either in the 4th or 5th poverty quintile, which allegedly indicates that the schools are located in the most—or second most—wealthiest regions in Cape Town. However, many residents, principals, and teachers in the Metro South district wholeheartedly disagree with the superior classification

Figure 3.1 Location of Schools in Sample



Michael Yang 2011

Source: Western Cape Education Department

given the poor student achievement and inadequate infrastructure. Rather, school fees are a more accurate indicator of student and neighborhood socio-economic levels. The sample average school fee is R458.5 per year. To put into context, over half of the households in the Metro South earn between R1,601 to R6,400 per month. For most schools, this fee alone is not enough to cover operational expenses or to hire additional Student Governing Body (SGB)-employed

teachers³⁵ to reduce the teacher-student ratio. Compounding the financial problems of the schools in the Metro South are the facts that as much as 50% of the student body will default on their payments and the school's poverty quintile status disqualifies it from receiving full subsidies from the government to eliminate school fees. So in fact, these schools in the "wealthy" Metro South region are constantly in a bind for funding their operations and their students' pass rates in literacy and numeracy exams are barely equivalent to the Western Cape averages.³⁶ The remainder of this section summarizes the characteristics of each school by region.

Grassy Park/Lotus River

The Grassy Park township is located south of the Southern Suburbs and adjacent to Lotus River. The township, unlike the other two regions in the sample, has a higher employment and its residents are better educated. Four schools from the sample are located in this area: Montagu's Gift, Kannemeyer, Plantation, and Sid G. Rule Primary Schools. The latter two schools are affiliated with CT3P.

Montagu's Gift Primary School is one of the poorest and worst performing schools in the sample. The 6th grade learners scored an average of 4 out of 100 on the numeracy assessment in 2009 and 38 on the literacy assessment. Despite having the lowest school fees (R180/year) in the sample, the school fails to collect dues from its student body. The lack of funds is reflected in not only its poor maintenance of the soccer field and school infrastructure, but also in the high student-to-teacher ratio (50), as the school cannot afford to hire additional teachers.

Across the road from Montagu's Gift is Plantation Primary School. Despite its geographic proximity, Plantation ranks as a 5 in the poverty quintile, which according to the principal, translates to less support from the government. Plantation also struggles with

³⁵SGB teachers are hired on an annual contractual basis by the individual school board and paid using revenues from the school.

³⁶ The average 3rd grade numeracy (37.9) and literacy (55.9) pass rates in the sample are equivalent to Western Cape averages (35 and 53.5, respectively)

collecting school fees—only 40% of its students pay on time—but the strong leadership and 38-year tenure of the principal appears to hold some power in the community and managing the school cohesively and effectively.

Another school with strong leadership is Sid G. Rule Primary School, which has been affiliated with CT3P since the NGO's inception. The school has gained a reputation given its strikingly high scores in literacy (high 80s) and numeracy scores above the sample and provincial average. It is able to charge R1,500 per year and maintain a competitive acceptance rate. Compared to the other schools in the sample, it is well resourced by local and international organizations. For example, the principal proudly showed off the school's brand new basketball court, resurfaced by a local company. The teachers, too, are involved in activities above and beyond their primary duties. At one point, all the teachers at Sid G. Rule participated in the teacher training program run by CT3P.

The other CT3P affiliated school in Grassy Park is Kannemayer Primary School, where the pilot survey was conducted. The school has a similar poverty quintile, student-to-teacher ratio, and literacy and numeracy scores as Sid G. Rule, but charges only R800 per year. The school hallways were filled with students' artistic creations and posters acknowledging the school's collaborations with various local environmental NGOs.

Mitchell's Plain

Predominantly a coloured region, Mitchell's Plain is one of the largest townships in the outskirts of Cape Town. The schools in Mitchell's Plain were least affected by the teacher's strike at the time of this study compared to the Xhosa-speaking black township schools. As a result, half the schools from the sample are from this area: Sea View, Carandale, Rocklands, Wavecrest, and Eisleben Road Primary Schools.

Of the schools in Mitchell's Plain, Sea View Primary School appeared to be most affected by the strike. On the day school visit, two weeks since the beginning of the strike, nearly half of the educators and staff were still absent. This left the remaining teachers responsible for two or three sets of extra classes. Interestingly, Sea View has the lowest student-teacher ratio of the sample and its learners' pass rates are slightly above the sample average.

Carandale Primary School had the opposite problem, where students instead of educators took advantage of the chaos and skipped school. Another quintile 4 school, Carandale charges the second lowest school fees (R230 per year) to 832 students. The students pass rates are below the sample average. In particular, its numeracy pass rates for 6th and 3rd graders were a mere 10% and 11%, respectively.

Rocklands Primary School is one of the oldest and most established of the schools in the sample but faces similar academic challenges as Carandale. Due to its long history, the principal estimates that nearly a quarter of the school's 739 students are commuters from other townships, mainly Khayelitsha. The distance and language barriers between the coloured-heavy school administration and black parents results in hardships for active parental involvement in the learners' education. Perhaps for this reason, the school's 2009 numeracy pass rate (18%) is acutely low.

The principal at Wavecrest Primary School reports similar challenges with its commuter population. Students have trouble with securing reliable transportation to and from school and feel especially unsafe at night. The school, in partnership with CT3P over the last 10 years, has been hosting various community organizations to assist with addressing such community-wide issues. For example, the Women of Wavecrest organization helps moms overcome challenges within the community such as the influence of gangs. Despite the active community

involvement, the students' numeracy pass rates are average and the literacy pass rates are nearly two standard deviations below the sample average.

According to the principal of Eisleben Road Primary School, problems persist not only with the black students commuting into Mitchell's Plain, but also with the coloured families in the locality. Eisleben Road serves a large, mostly coloured student population (907) for a low school fee (R250 per year). The pass rates near the sample average, but the school's 2009 numeracy pass rate for 3rd graders reached only 6.8%.

Vrygrond/Muizenberg

Vrygrond is an extremely poor coloured neighborhood near the coast. The main school in the area, Capricorn Primary School, was included in sample because it was a CT3P-affiliated school in Metro South district. Capricorn is a unique in that it is a public school largely funded by an endowment established by a group of socially-minded white South Africans. These funds subsidize the school fees so that learners are only required to pay R75 year. Since opening its doors in 2008, the school hired mostly young and a diverse group of teachers. Despite the fanfare and injection of donor funding, the Capricorn's 3rd grade pass rates are extremely poor in both numeracy (9.5) and literacy (14.3).

Conclusion

Chapter 3 outlined the premise of the research. Narrowing down from the provincial level to the schools in the sample, this section described the unique education-related factors at each level. With the specific context of this research in mind, this study continues with a literature review on self-efficacy and professional development programs, providing the theoretical groundwork for guiding this research.

CHAPTER 4. LITERATURE REVIEW

Summary

Before delving into the findings of this research, this section offers an overview of the self-efficacy and professional development literature to provide the theoretical groundwork and evidence that guided the research methodology and hypotheses. The first portion outlines the importance of teacher self-efficacy as an influence in the development of learners' educational outcomes, promoting collaboration in the school environment, and ensuring the success of program implementation. The next sub-section explores the external and internal factors that either boost or diminish self-efficacy. Lastly, this chapter reviews the literature on professional development programs in developing countries as it pertains to self-efficacy, concluding with an example of one such program in South Africa that was shown to raise self-efficacy.

Importance of teacher self-efficacy

According to Pajares (1996), knowledge, skill, and prior attainments alone are often poor predictors of subsequent attainments because the beliefs that individuals hold about their abilities about the outcome of their efforts are more influential in the ways in which they will behave. It is our belief in our abilities, Henson (2001) contends, that affect our behavior, motivation, and ultimately our success or failure. Follow this logic, because self-efficacy beliefs are explicitly self-referent in nature and directed toward perceived abilities on specific tasks, teacher self-efficacy is one of the most powerful predictors of behavior. Tschannen-Moran et. al (1998) agree, purporting that self-efficacy is even better than locus of control as a predictor of behavior; although an individual may believe that a particular outcome is directly associated by his or her actions, the individual may still lack the confidence or self-belief to accomplish the necessary actions.

Teacher self-efficacy is a self-generated evaluation of one's own abilities, but this metric

does not necessarily reflect the actual skills of the educator (Gaskill & Hoy, 2002). In other words, self-efficacy is based on a self-perception of competence rather than actual levels of competence (Tschannen-Moran et. al, 1998). For example, an educator who is extremely confident in his or her ability to raise the test scores of the bottom 10% of their students may not lead to an actual improvement in the scores earned by those students. The converse also applies; some educators may doubt their ability to structure their class time and to keep their students on task when, in fact, their students happen to be the most disciplined cohort in the school (Gaskill & Hoy, 2002). Therefore, Bandura (1997) believes that self-efficacy levels that are slightly higher than the teacher's actual level of competence on a specific task are optimal in translating the positive self-belief into real changes in the quality of teaching.

Studies have shown that teachers' self-beliefs are in fact significant determinants of teaching behavior that could be altered in a way that improves the quality of teaching and translated into classroom practice. In the classroom, Tschannen-Moran et. al, (1998) observed that efficacious teachers displayed enthusiasm and clarity in teaching content material, enhancing the effectiveness of limited lectures. In addition, Allinder (1994) found that efficacious teachers tended to experiment more with pedagogical models and implement progressive pedagogy in their classrooms. Furthermore, organizational skills and time spent planning for class lessons, two important factors in quality teaching, were both positively associated with personal teaching efficacy (Tschannen-Moran et. al, 1998). In sum, various researches suggest that self-efficacy is associated with an increased caliber of teaching.

Researchers also discovered that relationships between teachers and students improved if the former were efficacious. Instead of giving up or blaming external factors, self-efficacious teachers took more time with struggling students (Gibson & Dembo, 1984). Also, teachers who believe in themselves can further cultivate a sense of self-esteem and comfort in their students

(Thompson 2003). Such caring and tenacious behavior displays that efficacious teachers tend to feel and take more ownership of the learning of their students (Brookover & Lezotte, 1979). In contrast, teachers who do not expect to be successful with certain students are likely to put forth less effort in the preparation and delivery of instruction, and to give up easily at the first sign of difficulty, even if they know of strategies that could assist these students if applied (*ibid*).

Experts in the field also suggest that the mere belief in one's ability has the potential to positively and directly impact student learning as well as other educational outcomes (Ashton, 1985; Keenan, 2005). Standardized examinations, one of the most common educational outcomes studied in the field, is one such variable found to be associated with efficacy. A group of studies found teacher efficacy as a statistically significant predictor of achievement on a variety of standardized exams, including the Metropolitan Achievement Test (Ashton & Webb, 1986), Canadian Achievement Tests (Henson, 2001) and Iowa Test of Basic Skills (Ross, 1992). Beyond the quantitative measures of student achievement, Anderson et. al (1998) claims that teacher self-efficacy plays a role in raising students' own sense of efficacy, levels of motivation, and attitudes towards school and the subject matter being taught. Drawing from the results of his regression model, Midgley et. al (1989) discovered similar findings in that:

students with more efficacious teachers had higher expectancies and perceptions of their performance in math than did students with less efficacious teachers. In addition, in the spring of their seventh grade year, students with more efficacious teachers rated math as less difficult than did students with less efficacious teachers.

Midgley et. al (1989) found the inverse to be true as well. "The beliefs of students who had low-efficacy teachers became more negative as the school years progressed, whereas the beliefs of students who had high-efficacy teachers became more positive or showed less negative change from the beginning to the end of the school years." Wood and Olivier (2007) attributes this trend to the characteristics of self-efficacious teachers, which include enjoyment of teaching,

approachable presence, perseverance, and frequent encouragement. Such an approach towards students builds empathy, trust, and mutual respect between teachers and students, and ultimately inculcates positive levels of efficacy, attitudes, and behaviors in students.

The impacts of high levels of efficacy are not confined to the individual teacher and his or her students. Wood and Olivier (2007) found that raising self-efficacy of an individual teacher has constructive spillover effects to their colleagues, their school, and to the community at-large. Teachers who participated in their efficacy training program believed they had “a positive influence on their colleagues and played a role in motivating them” (*ibid*). After improving their own life skills and self-confidence, teachers who partook in the efficacy training assessed themselves as more powerful in influencing the school system. Thus, investing in an individual teacher’s self-efficacy appears only to be the beginning of creating a larger and more systematic change in his or her colleagues, the school environment, and the school system.

In the grand scheme of education reform, teacher self-efficacy is a critical factor in ensuring the success of policy interventions and program implementation according to Berman and McLaughlin (1977) (in Guskey & Passaro, 1994). For example, in the specific context of teachers who teach Life Orientation (LO) courses, Wood and Olivier (2008) find those employed in under-resourced schools do not possess the skills, knowledge, attitudes and values required of them to be effective LO facilitators and role models. If participating teachers are expected to implement educational reforms in their communities in line with an intervention’s goals, the authors argue that the program must first improve the teachers’ mental well-being and self-belief. According to Wood (2004), teachers must first be equipped with a sense of self-efficacy first in order to be empowered from the tools and resources provided by interventions and program to become agents of change.

Sources of self-efficacy

Attaining a level of self-efficacy that will bring about the aforementioned changes in behavior and student achievement is dependent on a myriad of internal and external factors. According to Bandura's social cognitive theory, self-efficacy can be enhanced in the four following ways (Gaskill & Hoy, 2002):

- ***Mastery of experience.*** The most powerful source of efficacy, a teacher's own experience will construct his or her self-confidence to overcome a particular task. Successful experiences increase efficacy while failures tend to lower efficacy.
- ***Physiological and emotional arousal.*** How one feels in the moment before, during, or facing a task at hand plays a salient role in determining self-efficacy.
- ***Vicarious experiences.*** Accomplishments modeled by somebody else can have an impact on a teacher's sense of efficacy, especially if the teacher closely identified with the model. Colleagues often make the most powerful models.
- ***Verbal persuasion.*** Examples of effective verbal persuasion include pep talks or specific performance-based feedback. Verbal persuasion alone cannot achieve sustained increase in self-efficacy. The potency of persuasion is contingent on the credibility, trustworthiness, and expertise of the persuader (Bandura, 1986).

Henson (2002) asserts a broader notion than Bandura, claiming that our self-efficacy is a function of environmental influences. For example, Clements and Vanderberghe (2000) find that collaboration with other teachers, parental involvement in the school, and school wide coordination of student behavior are factors significantly associated with teacher efficacy (in Villegas-Reimers, 2003). During these collaborations, the opportunity to receive positive feedback from other stakeholders helps teachers gain confidence in their abilities. If instead teachers are exposed to "excessive role demands, poor morale, lack of recognition, inadequate

salaries, low status, professional isolation, uncertainty, alienation lead to decline of self-efficacy,” such external factors were found to diminish self-efficacy levels (Tschannen-Moran & Hoy, in press).

Beyond the opportunities for collaboration and networking, the school-level structure and culture set by principal is just as important in determining the self-efficacy levels of teachers according to Scribner (as cited in Villegas-Reimers, 2003). The leadership of the principal, reflected by his or her ability to inspire a common sense of purpose among teachers, abate student disorders, and provide rewards contingent on performance, empowers teachers’ efficacy to participate in school decision-making (Hipp & Bredeson, 1995). In addition, principals who were perceived to have authority to communicate with their superiors within the school district led to higher personal teacher efficacy (Rangarje et. al, 2005). Moore and Esselman (1992) also found that school policies that allow for greater freedom in teachers’ own classrooms and fewer administrative impediments contributed to increased self-efficacy to effectively manage classrooms and experiment with pedagogy.

Teacher training programs as a means to raise self-efficacy

Instead of addressing each and every social, cultural, and institutional factor that affects self-efficacy, a limited number of studies suggest that professional development is an intervention that meaningfully impacts teachers’ beliefs and behavior (Henson, 2002). Elmore (1997) argues that professional development is an essential variable in larger reform efforts.

In order to progress from reforms on this sort to changes in student performance, one has to assume that changes in policy and organization will result in a different kind of teaching, which will in turn result in a different kind of learning for students, who will in turn demonstrate this learning by doing better on measure of performance. One key element missing in this formulation, however, is the knowledge required for teachers and administrators to engage in a different kind of teaching and learning. Policies, by themselves, don’t impart new knowledge; they create the occasion for educators to seek new knowledge and turn that knowledge into new practice. Hence, professional development is the main link connection policy and practice (*ibid*).

Aziz Primji, a for-profit organization that offers teacher training courses in India, also believes that preparing educators for the multiple roles that they perform in school requires adequate time to empower them with the required skills, knowledge, attitudes, and values. Like Elmore, the organization promotes professional development as a tool that aligns the theory and practice of effective teaching in order to result in sustained transformations.

In practice, teacher training programs address the four theoretical sources of self-efficacy as identified by Bandura (1986). For example, the collaborative nature of teacher training programs lends itself to opportunities for observation of skilled practitioners with expertise on good teaching, also known as vicarious experiences. Modules that allow for constructive criticism from colleagues offer verbal persuasion to the participant. Professional development courses also focus on concrete classroom applications of general ideas, thus building on the mastery of experiences for teachers. Furthermore, the sense of camaraderie while working with colleagues will most likely excite positive emotional arousal.

According to the International Institute for Education Planning, there are many different models of teacher training that can achieve self-efficacy gains (Villegas-Reimers, 2003). Professional development ranges from formal experiences, such as attending workshops and professional meetings to informal experiences, including reading education-themed journals. The traditional system of professional development is most associated with in-service training, which consists of short-term courses that do not usually tackle practical problems or actively engage teachers to experiment with the theories presented. These courses tend to be controlled by employers and its goals are established by governments. However, the IIEP finds that district administrators alone cannot change practice; rather, the process of change must originate from teachers, students, administrators, and parents working out difficult problems together in a web

of shared expectations (Elmore, 1997). Otherwise, implementing the administrative-led principles without cultivating norms of commitment, mutual care, and concern among other stakeholders is likely to fail in affecting change (Villegas-Reimers, 2003).

The recent shift in perspective regarding professional development now conceives teachers as reflective practitioners. UNESCO has found that the latest teacher training programs incorporate elements that aid teachers in building new pedagogical theories and practices (*ibid*). Also, in contrast to the piecemeal government-driven training agendas, programs are developed within the framework of relevant social, economic, and political trends and events according to Woods (as cited in Villegas-Reimers, 2003). Professional development is no longer considered a skill training mechanism, but rather as a process of culture building that leads to coherent changes that are aligned with each individual school's programming and mission.

According to Guskey (1995), Corcoran (1995) and Fullan (1987), there are specific guidelines for implementing professional development opportunities successfully (as cited in Villegas-Reimers, 2003). First, such programs should stimulate and support site-based initiatives rather functioning with an abstract and general purpose. Second, programs should recognize change as both an individual and an organizational process. Including school leadership to participate in the training programs will not only expose decision-makers to a forum that fosters dialogue with their subordinates, but the principals are also more likely to transfer such a collaborative culture school wide. Third, those running the programs should provide continuous follow-up, support, and pressure to sustain the gains in efficacy or any other measure. Lastly, procedures for receiving and offering feedback should be embedded throughout the program to engage the teachers in constant self-reflection.

One example of a training program in South Africa that raised self-efficacy and incorporated many of the aforementioned guidelines is Wood and Olivier's program (2007). The

Advanced Certificate in Education training course, facilitated by the authors and in partnership with the Nelson Mandela Metropolitan University, taught 126 life orientation educators in the Eastern Cape (*ibid*). The program, compartmentalized into four units, begins with introducing the concept of self-efficacy, sets learning objectives, and conducts reflection sessions to increase internal locus of control. At the end of the program, the participants reported that the program increased their own life skills and self-confidence, which in turn led to more confidence in influencing the school system. The modules also reportedly empowered teachers to structure their work and classroom activities and maintain a sense of control over chaotic situations. Instead of giving up when faced with difficult situation, teachers tended to persevere until they succeeded. These results are consistent with similar programs summarized in the literature review.

Conclusion

The literature illustrates the ways in which teacher self-efficacy is an important factor in all facets of the education process. Improving the levels of self-efficacy of one teacher not only will improve his or her capacity to teach, but also has the potential to influence student academic performance and to foster a more collaborative school environment. The Wood and Olivier (2007) study is just one example of the types of programs that work to enhance teacher self-efficacy. The following section analyzes the theory of action of the Cape Town Teacher Training Program (CT3P) and how the NGO's program structure coincides with predicted outcomes outlined in the literature.

CHAPTER 5. CT3P THEORY OF ACTION

Summary

The crux of this research hinges on the case study of the Cape Town Teacher Training Program, which offers training to educators in disadvantaged township schools. While the main focus of the NGO is to train teachers on initiating extra-mural programs in their schools, self-efficacy gains are a more than possible outcome for the participants. In order to understand the design of the training program and its potential utility with respect to self-efficacy, this chapter analyzes the NGO's theory of action using the Kellogg Logic Framework. The framework is a specific method of analyzing non-profits, by delineating the organization's mission statement, resources, activities, outputs, short- and long-term outcomes, and impact. Each component of the framework is evaluated on how it is relevant in increasing gains in efficacy of its participants based on the self-efficacy and professional development literature outlined in the previous chapter.

Mission Statement

The Cape Town Teacher Training Program is a non-profit organization based in Cape Town whose mission it is to contribute significantly to a provincial and national movement of "Community Hub Schools" for extended child-, teacher- and family-friendly learning, recreation, and support services. Working primarily in the worst performing urban township and rural schools, CT3P operates on the premise that extra-mural activities³⁷ enable schools to meet the context-specific needs and interests of their learners, families, staff, and local communities. By taking a holistic and activist approach, CT3P believes its organizational impact is to change the

³⁷ The extra-murals are partitioned into four categories: sport and games; arts and crafts; health and well-being; academic support.

institutions of education by bringing educators, learners, families, and the community together via the community hub schools (du Plessis, 2010a)³⁸.

Resources/Inputs

CT3P has multiple human, financial, organizational, and community resources to draw from and direct towards accomplishing their mission. Most importantly, it is recognized and funded by the Western Cape Education Department (WCED), thereby granting CT3P access to schools and a secure source of funding. The WCED also designates two staff members to oversee the implementation of the programs and liaise with other CT3P staff members. The organization also has established partnerships with other NGOs in Cape Town that work on similar issues regarding youth, such as literacy and numeracy groups. International groups assist CT3P with funding and sending volunteers to work at specific CT3P schools. Jan du Plessis³⁹ (2010b), a researcher at CT3P, also credits the staff as a huge resource and finds their diverse and vast experience in the education sector instrumental to the success of the organization.

Table 1. Total number of beneficiaries of the CT3P programs

School Level	Number	Learners	Educators	HODs ⁴⁰	Asst. Principals	Principals
Primary	28	25,636	585	95	36	28
Secondary	14	11,973	287	56	19	14
Totals	42	37,609	872	151	55	43

Program activities

The backbone of CT3P is its training programs and the onsite support it offers at 42 schools throughout the Western Cape. While they offer workshops on school leadership for principals and deputies, CT3P focuses on training educators on four skills:

³⁸ The author of this internal document is a worker at CT3P. To protect his identity, I used a pseudonym. For more information on this document, please contact me directly.

³⁹ Pseudonym of a worker at CT3P

⁴⁰ Head of Departments

- **Programming.** This training module highlights the values of extra-mural activities and provides teachers with the strategies to initiate a program at their school.
- **Involvement systems.** Teachers learn how to engage parents, learners, and the community in the extra-murals and broader school initiatives.
- **Project management.** After implementation of the program, educators learn how to sustain the activities at their schools. Specifically, they learn management skills and how to fundraise within the community.
- **Group facilitation.** A crosscutting module, group facilitation introduces inclusive pedagogy models as opposed to an authoritative, top-down approach to teaching and collaboration.

The rigorous teacher training program occurs 8 days per year during the weekend at an off-campus location. CT3P follows up with its trainees twice per year.

Usually, the training program involves a school's principal as well as 6 educators, two of whom are designated as the co-leaders (EMDP). All trainees are part of the Extra-Mural Management Team (EMMT), a group that is expected to return to their schools and integrate extra-mural activities into their lessons. On average, most trainees succeed in establishing a school-wide extra-mural program and in involving their non-trained colleagues to facilitate the activities within 12 weeks of completing the training.

In addition to the teacher training courses, the organization also provides onsite support at schools and connects stakeholders from different schools together. For example, CT3P initiated cluster meetings, a space where teachers from different schools in the region can share lessons learned and best practices. Another initiative called the Development Desks is a type of social forum that fosters collaboration among all parties with a vested interest in the schools' activities. In addition, because CT3P does not finance the extra-mural activities, it also connects teachers to foundations and non-profits to sponsor the programs.

Outputs

The direct output of the teacher training program is the new extra-mural activities implemented at each school. In 2010, CT3P introduced over thirty new extra-mural activities in its affiliated schools, increasing the learner participation in extra-murals by 39% (du Plessis, 2010b). The types of extra-mural activities offered at each school vary from school to school, reflecting the range of interests and skills of any sponsoring teacher or the resources available.

Outcomes

Learners also indirectly benefit from the literacy and numeracy support activities. Literacy extra-murals, such as reading clubs, spelling bee's, poetry sessions and writing clubs, are buttressed by other helpful interventions that enrich learners' engagement with languages (du Plessis, 2010b). Numeracy support comes in the form of math clubs or activities such as beading that requires counting. Cooper found that numeracy aptitudes in the CT3P-affiliated schools have increased steadily over the last four years, improving by 12%. Literacy scores, on the other hand, have only increased 1.5% over the 2006 to 2010 period (Cooper 2010b). This type of result, that is a greater impact in numeracy over literacy, appears often in the literature (Rouse, 1998; Kerachsky, 2009).⁴¹ One possible explanation for the difference in gains is that for most learners, numeracy is a skill solely learned in school whereas language and literacy may be dependent on the home environment (i.e., how much the parent reads with the child, the mother tongue, etc.). Thus, the school's effect on numeracy can potentially be more direct whereas literacy skills may remain the same even if the educators' efficacy improves due to the home environment.

⁴¹ Rouse found that the Milwaukee voucher recipients received faster math score gains than, but similar reading score gains to, the comparison groups. Kerachsky's NAEP trend assessment between 2008 and 1973 also showed that reading scores increased only 12 points in reading and double the gains for math scores for 9-year olds.

Impact

CT3P's programs produce certain outcomes and specific changes in its participants' behavior, knowledge, skills, status and level of functioning. Interviews conducted with many of the educators and principals illustrated how extra-mural activities were 'humanizing' the school environment, which is often characterized by bureaucratic processes and hierarchal relationships. CT3P has also helped educators build their social capital, aiding them with options for problem-solving and reducing feelings of isolation, which educators may harbor. Educators have noted that having a networks with educators at other schools, with whom they can consult when faced with problems, have been particularly helpful.

Conclusion

While teacher self-efficacy is not explicitly stated as one of the main outcomes of the CT3P teacher training program, it is conceivable that the program could have an impact on the teachers' personal self-efficacy. As mentioned in the literature, making the school principals aware and involved in the teacher training process increases the likelihood of sustaining the program's objectives and support for teachers (Hipp & Bredeson, 1995). Also, the school leadership's involvement also guarantees that CT3P's activities are attuned to and aligned with each individual school's programming and mission. The CT3P theory of action accounts for this by training the principals and deputies along with the 6 teachers. Embedded in the program structure is also the NGO's commitment to maintain engagement with its participants. The constant follow-up is more likely for program success and to sustain gains in efficacy or any other outcome.

The next chapter statistically analyzes the effects of CT3P's programs on self-efficacy of teachers in the four following dimensions: student performance; classroom management; colleague interaction; and parent and community engagement. I hypothesize that teachers who

participated in the training program will have higher self-efficacy in all four categories than those non-trained teachers in the same school and those in the control group for the following reasons. First, the interaction with students in a non-academic context may afford educators the opportunity to provide more individualized attention to learner, leading to disciplined behavior from the learners and better classroom management from teachers. Second, learning new pedagogical models from the training workshops may inspire participating educators' confidence in their ability to improve student performance. Third, gaining experiences together with their colleagues throughout the course of the training program and being encouraged to involve non-trained colleagues to the school extra-mural activities may increase the entire school's self-efficacy to work collaboratively. Lastly, gaining the mastery of experience from reaching out to sponsors while fundraising for their extra-mural program is likely to help teachers be more confident in engaging parents and the community. These gains in self-efficacy of engaging the community will in turn create mutual trust and respect between all parties and lead to other self-efficacy gains, such as more ownership and resolve in tackling school problems (Steyn & van Wyk, 1999).

CHAPTER 6. FINDINGS: STATISTICAL ANALYSIS OF SURVEY DATA

Summary

This chapter attempts to answer the two research questions by analyzing a self-reported survey using statistical methods. The section begins with a diagnostic evaluation of the sample as a whole. The sample statistics are then compared to the statistics of the three following groups: CT3P trained educators (trained); non-trained educators in the same school as the previous group (non-trained); and control group of educators from similar township schools (control). The remainder of this chapter discusses the research questions using Cronbach's alpha coefficient, principal component analysis (PCA) and one-way analysis of variance (ANOVA). These methods revealed a high level of self-efficacy of teachers across all three groups and no statistical difference in the means of the scores between groups.

Diagnostic evaluation of sample data set

When the 81 educators completed the survey for this study on self-efficacy, they were also asked to submit relevant biographical and efficacy-related data. The biographical information included the educators' age and gender. The survey participants also reported personal teaching-related information, such as years of teaching experience, years of teaching at the current school, grade levels taught, class size, and the passing rates of the respective educators' students.⁴²

Across the sample, the educators on average were 42.9 years old with 18.6 years of teaching experience,⁴³ indicating that a majority of the educators began teaching at a young age, most likely straight out of college or university. This is not surprising given the limited

⁴² There were 43 missing observations in 2009 passing rate, 48 for the 2008 passing rate, and 43 for class size. Either the educators didn't teach during those years or the schools did not have those numbers readily available at the time of my visit. In addition, 3 educators omitted answering how old they were because they did not feel comfortable disclosing that information.

⁴³ See Appendix B, Figures 2 and 5.

professional opportunities for the coloured population during apartheid. Another statistic perhaps explained by apartheid policies are the highest level of education attained by the teachers. The majority of the participants obtained a college degree, which refers to a teacher training college. Meanwhile, only 25% of educators possessed a university degree is—akin to an American tertiary education—while 8.5% of teachers only had high school matric as the highest level of education. While the distribution of the educators' highest level of education attained is much better than what they were in 1994, the number of educators with a university degree is still pretty low compared to those educators at non-township schools.⁴⁴ Also to be expected in such a female-heavy industry, 84% of survey participants were female.⁴⁵

The school level variables provide interesting insights on the sample. For example, the mean number of years the educators reported teaching at the same school was 11.3, but there was a large standard deviation of 9.3 so it is difficult to identify a singular trend⁴⁶. In addition, nearly half (45.1%) of the respondents taught in the foundation phase,⁴⁷ but some educators were responsible for multiple grade levels depending on the subject area.⁴⁸ The average class size was nearly 34 students, equivalent to the national primary school student-teacher ratio.⁴⁹ The most interesting variables are the sample's average learner pass rates from one grade onto the next, which were 92% in 2008 and 90% in 2009.⁵⁰ These unexpectedly high pass rates are in juxtaposition to the low school level pass rates on the nationwide standardized literacy and numeracy assessments. This indicates that the student pass rates are unreliable indicators of

⁴⁴ In Chapter 2, it was stated that only 2.3% of black teachers had a university degree.

⁴⁵ See Appendix B, Figure 4 for pie chart of gender ratio of sample participants

⁴⁶ See Appendix B, Figure 9.

⁴⁷ Foundation phase- grades 1-3 where teach Numeracy, Literacy, and Life Skills.

⁴⁸ See Appendix B, Figure 3 for distribution of grades taught by respondents.

⁴⁹ See Appendix B, Figure 7.

⁵⁰ See Appendix B, Figure 6.

student achievement, perhaps due to the fact that allowing a learner to the next grade is largely contingent on the discretion of the educator.

ANOVA for background variables between groups

In evaluating the sample averages of the aforementioned variables to the three groups of interest, there appear to be no major differences, as seen in Table 3. However, the between group analysis of the different variables show some differences. For example, the mean years of teaching experience of the trained and control groups are similar (21 and 20.07, respectively) while the mean for the non-trained group is 14.04 years. Confirming the visual inspection of the box plot (Figure 8), the ANOVA F -statistic (3.61) shows that the difference in means between all groups, but particularly between the non-trained and trained group, is significant at the .05 level of significance. One possible extrapolation of this difference is that educators who are more experienced are more likely to want and actually join a training program. Another explanation for the difference between educators in the same school is that CT3P actively recruits experienced educators who probably have more authority in school-level decision making, therefore ensuring CT3P's program success. A better explanation of this difference is evidenced in the statistically significant 10 year difference in the means of reported years of teaching at the same school between the two groups ($p=.002$). Trained educators on average have spent 15 years at the same school while non-trained teachers were hired for less than an average 4.4 years. Thus, it may be that newer teachers at CT3P-affiliated schools missed or were unaware of the opportunity to join the program.

Other than these two variables, the t -test between the groups confirms that there is no statistically significant difference in the average ages, years of teaching experience, and highest educational level between the groups at the .05 level of significance. There is also no observable or statistical difference in mean class size or learner pass rates, although there was a high level of

within-variation in the control group's 2009 pass rates (Figure 6). The non-significant difference in means between the trained and control groups for many of the variables was in fact the intent of the research design and useful moving forward with the analysis. As mentioned previously in Chapter 3, a comparison between the trained teachers and control group will reflect the impact of the training on the teachers' self-efficacy. A second comparison between non-trained and control groups will offer insights into the different levels of self-efficacy between non-participatory and self-selecting teachers in township schools.

Level of self-efficacy among educators in the Metro South

Moving beyond the background variables, the summary statistics reveal that levels of self-efficacy as reported in questions 1-18 in the survey are extremely high across the board (Table 1). On average, educators reported over 4 out of 5 points in more than half the questions regarding their level of self-efficacy with standard deviations ranging from .7 to 1.1. The two lowest mean efficacy scores were on questions related to the confidence levels of involving the community (questions 17, 18) and influencing school decisions (question 10). The highest levels of efficacy pertained to encouraging students to work together (question 9) and join extra-curricular activities (question 4). These results are consistent with the literature, as many educators expressed their frustrations with parents and school administrators.

The positive results, however, contradict my earlier hypothesis that self-efficacy levels would be low for township educator given the expected challenges they encounter. While the findings of the raw responses demonstrate that teachers in the sample—and perhaps in similar disadvantaged schools—have high levels of self-efficacy, there are several caveats to this interpretation. For one, the research design in terms of selecting the types of participants for the sample may be associated with the self-efficacy results. As mentioned in Chapter 3, the trained and control groups consist of teachers who portrayed an intention or actually participated in a

training program like CT3P. Thus, this sample may represent the most self-selected group of educators, thus not reflecting the average township educator. Moreover, it is more likely that the very confident responses are due to a ceiling arising from the survey design. The 5-point Likert scale, which is less than the standard and recommended 7-point scale, may have attributed to the skewed responses. Furthermore, there is also the possibility of a response bias, which can distort the results of a statistical survey if respondents answer questions in the way they think the survey implementer wants them to answer rather than according to their true beliefs (Bandura, 2006). The discussions from interviews in the next chapter should offer more insight into explaining these findings on whether educators indeed feel highly efficacious with certain challenges.

Reorganizing self-efficacy responses

At the heart of the survey questions are 4 test questions and 18 questions related to self-efficacy. Instead of evaluating every question separately against the three groups, I decided to combine the questions into composites. In order to create composites of questions that measure the same construct, I calculated a Cronbach's alpha for each cluster of questions designed to measure a single construct. The alpha level associated with each composite variable indicates the level of internal consistency among the responses. The four composite variables, based on Bandura's self-efficacy guide (2006), are: student performance; classroom management; colleague interaction and school environment; parental and community engagement. Each composite variable had a Cronbach's alpha greater than .85, indicating a high level of internal consistency.⁵¹ Thus, I will use the four composite variables to represent the different types of self-efficacy.

Next, instead of taking the grand mean of all the responses to the questions, I conducted a Principal Component Analysis (PCA) on each cluster of questions. PCA analysis generates a set

⁵¹ See Appendix A, Table 8.

of perfectly uncorrelated vectors that capture the variability of the question clusters. I then employed "the rule of one," as noted in Jackson (1993), to select the number of composites that I would use to measure each question cluster. For each of the four question clusters, only the first component had an eigenvalue greater than one.

Measuring the effect of the CT3P program on self-efficacy

To address the second research question, I conducted a one-way ANOVA on the four composite variables. The ANOVA post-hoc pair-wise comparison test will denote whether there is a statistically significant difference in the means of each composite variable between the groups. Of the three most common methods of adjusting for familywise errors that arise from pairwise comparisons—Scheffe, Sidak, and Bonferroni⁵²---I chose to implement the Bonferroni correction on my ANOVAs.

Table 9 summarizes the difference in means of self-efficacy between the groups. The trend in the sample shows that the trained group had higher mean efficacies in all four categories compared to the mean efficacies of both the control and non-trained group. The difference in mean efficacy of classroom management and school environment between the control and non-trained group illustrates that the former group is more self-confident in their beliefs. Yet the difference is reduced for self-efficacy pertaining to community participation, perhaps because non-trained teachers are exposed and benefiting from their trained colleagues' strategies on reaching out to the community. However, these differences should not be over-interpreted. The low *F*-statistics and high associated *p*-values indicate that there was no statistically significant difference in the mean levels of self-efficacy in any of the four composite variables between any pair-wise comparisons. Thus, according to the ANOVA results, CT3P trained teachers are no more self-efficacious in overcoming student performance, classroom management, school

⁵² Sidak is considered the most conservative in terms of detecting false positives. Given the small sample size, it would not have made a significant difference to choose any of the three methods.

environment, or community participation challenges than their non-trained colleagues or educators in the control group.

The non-significant findings can be interpreted in several different ways. One explanation is that it may be that it is too soon to see the impacts of the CT3P program, given that the teachers were trained for less than two years. It is also important to recognize that self-efficacy is not a stated outcome of the CT3P training program. Thus, perhaps a more targeted approach to raising self-efficacy will yield more significant results. Moreover, this analysis does not account for any other factors that may explain the variation in the groups' efficacy levels. Of course, it is plausible that the training program indeed has no effect on teacher efficacy levels. However, the flaws in research design and small sample size are more likely explanations for the non-significant findings.

Conclusion

The statistical analysis of the survey yielded surprising results regarding the levels of self-efficacy and impact of the CT3P program. Contradicting my initial hypothesis, teachers in the sample showed high levels of self-efficacy towards overcoming student performance and classroom management challenges. Furthermore, there was no difference among or between CT3P-trained teachers, non-trained teachers, and teachers in the control group in terms of self-efficacy in any of the four composite variables.

CHAPTER 7. FINDINGS: QUALITATIVE ANALYSIS OF INTERVIEWS

Summary

Despite the statistical analysis that yielded no significant difference between the groups, the interviews provide more substantive insights in refuting these findings. This section presents the findings of the 10 interview questions of 20 interviews, coded by group: trained (8), non-trained (4) or control group educators (8).⁵³ The analysis presented in this chapter first compares and contrasts responses to three broad questions regarding the participants' purpose for teaching. Next, I explore the educational challenges perceived by the educators and the qualities they believe are necessary to overcome such challenges. I then evaluate the educators' perspectives on the sources of their self-efficacy and what they would recommend to build their efficacy. For those interviewees who were trained by CT3P, I asked them additional questions about the benefits they received from the program and whether they experienced gains in self-efficacy.

Teaching purpose

Every interview began with a simple, but profound, question that asked the participants why they became teachers. It was evident that, as coloured women and men who were raised under apartheid policies, their choices in careers were limited to either become a policeman, nurse, or teacher. In the same vein, the educators explained that teaching was the only financially viable option for them because the apartheid government did not provide bursaries for other professions. Some educators indicated that they were following family tradition, as a majority of their family members were educators, thus limiting their exposure to this line of profession. Beyond the financial and social constraints, the respondents' motivations for becoming a teacher varied across the groups. For example, the most popular response from the control group

⁵³ There are an unequal number of educators interviewed in each group due to the availability of educators.

teachers was their love for children. Meanwhile, CT3P-trained and non-trained teachers stated positive influences from their own childhood educators as reasons for joining the profession.

There was a clear association between the educators' motivations for becoming a teacher and their perceptions on what their responsibilities are as educators. When asked, "What are your main teaching objectives?" educators stated that they were responsible for preparing learners for society. They also believed it was their duty to be a positive role model and take ownership of the most struggling students in order to give them knowledge that the learners would otherwise not receive. There was a striking contrast between the control and trained group in the types of knowledge they wanted to relay. In the control group, educators emphasized the importance of teaching hard skills such as numeracy and literacy and achieving WCED mandates. In contrast, the trained educators were more concerned about developing learners' abilities to link such hard skills and apply it in a real world context. These differing paradigms influenced the way in which the groups measured their success. The control group referred to matric rates and systematic assessments to evaluate its impact while the educators in the latter group measured their progress by the positive feedback about their former students from their colleagues in the feeder junior and secondary schools.

It is clear from the responses to these questions that educators perceive their responsibilities and projected impacts extend beyond the classroom. The participants not only feel that it is necessary to develop skills that will lead to educational outcomes, but also want to foster better citizenship and prepare the learners for the real-world challenges they are certain to face in the disadvantaged environments the learners come from. In addition, educators in the control group felt strongly about nurturing and loving their learners. These different frameworks are incredibly relevant for understanding the self-efficacy of the participants. According to Amabile and Karger (2011), minor milestones or incremental progress can increase a worker's

overall engagement at work and their happiness during the workday. Applying the same principles back to self-efficacy, it is then conceivable that educators who see themselves as nurturers or test preparers are more self-efficacious than those who are expecting to fundamentally change the path of a learners' future. One explanation is that the former group is likely to receive immediate feedback of their impact on their learners whereas the latter group would have to rely on intrinsic qualities, such as their faith or internal motivation, in the absence of clear markers of meaningful progress. Thus, in future research of self-efficacy, it may be pertinent to account for educators' frameworks on measuring the success and progress of achieving their perceived responsibilities.

Perceived challenges

Given the adverse township setting, it was not surprising to find that these teaching objectives were more hopeful than realized. Educators identified an overwhelming number of challenges they encounter, most of which they attribute to factors external beyond their realm of control. The most common point of concern was the lack of parental involvement. Educators described the stereotypical parents as young and immature, likely to neglect their child, and chronically absent from parent-teacher conference. At one school, only 1 of 90 parents bothered to showed up for a workshop on how they can get involved in their children's' literacy, reading, writing assignments. It is more likely that an educator meets a parent for the first time when the latter comes to the school to confront the former upon receiving notification about their child's imminent failure to be promoted onto the next grade. This, of course, assumes that the learner lives with either or both of their parents at all. In the Metro South, learners often live with their grandmothers because their parents work full-time, have abandoned them to abuse drugs or alcohol, or are dead. Educators are discouraged of that their lack of control over what happens in the learners' home environment. One interviewee says that "learners go home and come back to

school the next day, forgetting everything they were taught” and rendering the teachers’ efforts futile.

One such lesson lost upon the learners is manners and discipline, a problem educators attribute to the parents’ absence and neglect. Educators find their learners competing for their attention by acting out, which ultimately distracts other learners and disrupts the flow of the lesson. As another respondent explains it, the learners have no boundaries and frequently talk back, challenging the teacher’s authority. To the other extreme, anecdotes of lethargic students due to hunger and malnourishment who do not have the energy to participate or focus on the lecture came up in several times in different interviews.

Another common obstacle the respondents encounter is the lack of resources. Most of the educators’ frustrations regarding this problem were directed toward the WCED. In more than one occasion, the interviewees said that they paid out of pocket for student materials, as basic as notebooks and pencils, because the learners were too poor to afford them. In order to create a friendlier and more inviting environment for impressionable primary school-age children, teachers also pay for decorations to furnish their classrooms. The lack of textbooks and lab equipment supplied by the government also hinder the types of lessons that can be implemented. Educators in all three groups also complained about the lack of sports equipment for extra-curricular activities and insufficient funding for the arts and humanities in general. The consensus among the educators was that the WCED was not providing enough materials and physical resources, stifling the educators’ abilities to teach effectively and forcing teachers to take matters into their own hands at a personal cost.

Beyond the financial and supply chain problems, the legacy of apartheid emerged as a challenge in the form of language and spatial impediments. Despite being a predominantly coloured area, the Metro South and the schools in its district have been serving a sizable number

of black learners who commute in from their black townships.⁵⁴ Since the abolishment of apartheid, the commuter population consisted of zealous black parents who wanted to impress better educational opportunities for their learner and this segment of the learner population continued to go grow. However, due to the distance between townships, parents of black learners are usually unable to take the time to attend parent-teacher meetings. Another barrier between black parents and predominantly coloured teaching staff is in communication. Historically, the coloured populations learned how to speak Afrikaans while blacks in Cape Town spoke Xhosa as their first language. There also appears to be remnants of racism between the groups, as some educators claimed that black children in particular didn't know "how to say please or thank you." The inability to communicate with parents and perhaps inherent racism is likely to impede an educator's efforts to maximize the potential of black learners.

The diversity of learners, not only in terms of race, but also learning abilities, poses yet another hurdle that educators must overcome. Post-apartheid education policy mandated inclusive learning, in which learners with disabilities are integrated into regular classrooms. As a result, these students receive no separate special education and are even more likely to fall through the cracks. Educators in the foundation phase are also frustrated with the gaps between their learners who attended grade R and those who did not. Because attending grade R is neither compulsory nor subsidized, impoverished learners tend not to enroll and therefore lag behind their peers when they enter the first grade. Interviewees expressed their struggles to create and execute lesson plans that address the varying learning styles and levels of their learners.

Thus far, the types of obstacles identified by educators are in line with the external challenges outlined in the literature (Christie & Potterton, 1999; Wood, 2008). That is, the

⁵⁴ Unlike the United States, geography does not determine what school to attend. Instead, students can apply for any school they can afford and qualify for in terms of grades. Currently in Cape Town, there is a migration effect among the student population that looks like this: informal settlement → black township → coloured township → suburbs → private schools.

hindrances are perceived as beyond the realm of the educator's control, also known as low locus of control. Two internal challenges did emerge from the interviews: an educator's intolerance to change their method of teaching and unwillingness to ask for help even when struggling with their subject matter. However, the stated external challenges and low locus of control suggests that educators are less likely to have the self-confidence or willingness to overcome the stated challenges.

Qualities needed to overcome challenges

The plethora of challenges, internal or external, is to be expected in the line of work for the educators in South Africa. What is more interesting is the characteristics interviewees thought those in the education field must possess to overcome these challenges. I asked this question to see whether anyone would mention self-confidence as one of the necessary qualities; instead, I received a wider range of responses than I expected.

As the persons primarily responsible for all the learning in the classroom, the interviewees agreed that the most requisite qualities they should possess are an in-depth knowledge of the subject material and innovative pedagogy. The educators expressed their belief that they could overcome the discipline and behavioral problems of their learners as long as their content delivery was creative and conveyed effectively. They also recognized that their lesson plans needed to be flexible in order to account for the varying learning abilities in their class, although how this would be achieved was not exactly clear.

The educators also had a long list of intrinsic—almost spiritual—qualities they believed were necessary to overcome seemingly impossible obstacles, like student poverty. Many emphasized the need for patience, love, and empathy for a child's situation. They also marked self-esteem and the confidence in projecting yourself as an authoritative figure essential for maintaining control and discipline of the class. Otherwise, learners will “smell the fear and take

advantage of you,” said one interviewee. Educators who are not motivated and love their job will also likely fail to cope with the ebbs and flows of emotions throughout the school year. In fact, the interviewees noted that colleagues who were naturally motivated to do more than asked of them are the types that remain in the profession longest. Four educators also quite seriously professed that they probably would not be able to get through the day if it wasn’t for their faith in God. This supports Amabile and Karger’s (2011) findings that educators who are intrinsically motivated by the work itself tend to be more creative, productive and therefore, perhaps more self-efficacious.

But the educators acknowledged that the characteristics needed to overcome these challenges are not only innate or at the mercy of a higher calling, but also skills that can be developed. Some educators argued that the best way to tackle challenges is to personally invest in oneself. Great teachers consider themselves lifelong learners, one educator said. They should “seek continuous training and pursue furthering their education.” In doing so, educators are preparing themselves for not just a specific challenge, but the self-confidence to adapt in any type of situation that may arise.

It is one thing to state the ideal qualities of a model teacher, and another to possess those qualities. In interviewing the educators, I found that most educators in all groups embodied such qualities. For example, the educators told me personal anecdotes exemplifying their love and commitment to their learners. One educator visited a learner’s home after school hours when he did not attend school for over three days. Several of the educators also told me about the classes offered by the WCED that they were taking to improve in areas outside of their expertise, evidence that they are going above and beyond to develop professionally. Others read up on the internet or research journals to learn the latest pedagogical methods. Overall, it appeared that the teachers did have the qualities to overcome learner-related challenges.

However, at second glance at the interviews, I recognized that the teachers did not mention any qualities that were needed to overcome obstacles to engage with parents or deal with school politics. In fact, interviewees from schools in the control group appeared particularly resigned at influencing in school-decision making. At several different control group schools, educators complained that their opinions were not valued by the principal and chided the principal for his or her incompetence. When asked what qualities could overcome this challenge, none of those educators could come up with an answer, like assertiveness. In addition, control group educators believe that no amount of persistence on their end will engage parents in their learners' education. As one educator put it, "you can bring a horse to water, but you can't force the horse to drink." Thus, it appears that the control group educators believe that no amount of effort or innate positivity will help overcome the challenges related to the school administration or parents.

This negative attitude and lack of self-confidence may be dependent on the ways in which the educators perceive the scale of their challenges. For example, educators in the control group emphasized challenges their helplessness in addressing the poverty and socio-economic statuses of their learners. In contrast, both trained and non-trained educators conveyed the same problem in a different manner. Instead of explicitly referring to a challenge like extreme poverty that is outside of their realm of control, these educators were more concerned with the varying levels of their students in their classrooms, which is a symptom of poverty. This goes to show that the educators in CT3P-affiliated schools are choosing to recognize problems that are within reach of their control and therefore more likely to tackle them. In comparison, control group educators are probably less likely to tackle a challenge as insurmountable as poverty and resigned to lower levels of efficacy.

Perceptions on sources of self-efficacy

Asking the educators whether they were self-confident in their abilities to overcome any of the aforementioned challenges became a moot point when all the responses were positive. This was surprising given that the educators clearly were not confident in engaging parents, community members or their school's administration. So instead, I approached the question from a different angle and asked them what the sources of their self-proclaimed efficacy were.

The responses echoed Bandura's four points on many levels (1986). Educators referred to their years of teaching experience as the most influential source of their self-confidence. They also believed that their knowledge in their subject matter made them confident in their ability to plan, execute, and convey their lessons. The support or lack thereof from school leadership was also named a critical factor in determining their self-efficacy as it pertained to influencing important school decisions. One educator thought she could become more confident in expressing her views more freely and increase the collaborative atmosphere in her school if she had feedback from and networking opportunities with colleagues. Most importantly, the educators highlighted the emotional arousal of knowing that they raised the self-efficacy of their learners as one of the most pertinent sources of their own self-efficacy. One source of efficacy not mentioned in Bandura's original four sources but brought up by an educator was certification. It was surprising that educators felt validated for merely possessing a college or university degree and that this pride transformed into self-confidence in teaching.

In discussing the sources of efficacy, the teachers also came up with recommendations on how to stimulate and sustain the levels of self-efficacy. For the most part, the interviewees in the control and non-trained groups implored for support from the WCED in terms of establishing firm disciplinary options, financial aid for their poorest students, and less administrative work. They also requested that the school system shield them from overbearing parents who are quick to criticize without taking any responsibility of their child's outcomes. The educators also feel

that they would be more self-confident in the classroom if they had more time to prepare and research innovative curricula. Therefore, having specialists and aides who would reduce classroom sizes, diminishing administrative duties, and receiving personal remuneration would justify and allow for an increase in their confidence to provide a better quality of instruction.

The aforementioned suggestions are not necessarily innovative ideas. In fact, there are currently governmental efforts that are attempting to achieve those goals. However, if history is any evidence, disadvantaged township schools are not likely to receive the bundle of resources that the educators are requesting. Rather, the government must invest in the educators directly to cope with and tackle these challenges in the meantime. The educators in the trained group agree. They call for more training on matters such as strategies to engage parents and workshops exposing them to new pedagogical methods. Educators also want to be trained on using computer-based technologies so that they can access more materials.

Again, the contrast in responses among the groups denotes a difference in self-efficacy. Educators in the control and non-trained group expected external support, namely the WCED, to intervene and alleviate their problems. This suggests that even if these groups are self-confident in their abilities to overcome challenges, they are more prone to inaction and waiting for a solution to come. In comparison, the CT3P-trained educators explicitly wanted the government's support to improve their own abilities. This shows that this group of educators is willing to invest their time and efforts to change not only themselves, but also the problems they face.

Perceptions on the impact of CT3P

It is unclear whether CT3P increased the levels of self-efficacy of its participants or whether the types of people who joined the program were a self-selected group of already efficacious educators. Based on the interviews, it appears to be the latter. One trained educator said, "I was already self-confident" going into the problem. Thus, the non-significant statistical

findings that there may not be a difference between the trained and control groups' efficacy levels, a self-selected group as well, may be true.

The interviews did reveal, however, the impact of CT3P on its participants in a more profound way. As argued previously, it is one thing to have the self-confidence to overcome a particular challenge and another to actually take action to address the problem. The trained educators gained organizational skills, opportunities to share best practices with colleagues from other schools, and the ability to communicate convincingly without offending anyone. Most importantly, nearly all the trained educators echoed one another's belief that CT3P allowed them to acquire skills to implement an idea or plan. The trained educators stated that CT3P directly improved their self-confidence to facilitate an extra-mural program at their school. The success is evident in the fact that there is a functional and prosperous extra-mural program at the school of every trained teacher. It is conceivable that this gain in confidence to execute a plan can be applied to other aspects of the educators' job.

Conclusion

The interviews bore more insights on explaining the levels, sources, and differences in perceptions of self-efficacy among the educators. The analysis revealed that there were higher levels of efficacy related to student motivation and performance than for parent, community and school engagement. The different ways in which the groups frame the challenges they face and the resources or qualities needed to overcome them divulged the likelihood that each group would translate their self-confidence into concrete action. It appears CT3P may be influential in translating self-efficacy into action by providing educators with the skills and opportunity to implement a tangible product, such as an extra-mural program at the educator's school. Thus, training programs such as CT3P may be the catalyst needed to transform self-efficacy levels as more than a psychological construct.

CHAPTER 8. CONCLUSION: IMPLICATIONS & RECOMMENDATIONS

Summary

This study has attempted to answer two main questions. First, what are the levels of self-efficacy of educators in township schools in Cape Town? The self-reported surveys of 81 educators revealed that there was generally a high level of self-efficacy for student-related variables, such as motivating students, increase students' own self-efficacy, and keeping students on task. In contrast, there was slightly less self-confidence to reach out to the community, get parents to become involved in school activities, and influencing school decisions.

Second, the study asked to what extent did the a training program offered by CT3P influence self-efficacy of educators above and beyond other factors. The ANOVA results demonstrated that there was no statistically significant difference between or among the CT3P-trained educators, non-trained educators in the same school, and control group educators. However, the interviews highlighted that trained educators gained skills in fundraising, reaching out to the community and implementing an extra-mural program from the CT3P training that improved overall self-efficacy. I hypothesize that, with these skills, trained educators are more likely than non-trained or control group educators to translate their self-efficacy to tackle challenges, particularly regarding parent and community engagement, influencing important school decisions, and interacting with colleagues.

Recommendations for future studies

The preliminary results of this exploratory study have shown no statistically significant difference in teacher self-efficacy among the three groups. However, this study has opened up for more questions than answers about the psychological state of primary teachers in the Western Cape. What factors contributed to making non-trained teachers to feel as efficacious as trained teachers? How do these results compare to secondary school teachers or teachers in other school

districts? There is much potential for future studies to build on the findings of this paper and explore other dimensions of teacher self-efficacy in the Cape Town metropolitan area.

For example, expanding the scope and scale of the sampling would yield more accuracy and applicability of the results. Only 10 schools out of the 131 primary schools in the Metro South District were included in this study. If the sample included a much larger and random group of teachers, the results would portray a clearer picture of the self-efficacy levels of all its primary school teachers. The statistical analyses would also be less prone to biases and distortions with a larger sample size. This would not only benefit the government in making policy decisions regarding teacher training, but also CT3P on how its teachers are faring compared to a broader sample.

I would also recommend correcting two design flaws of this research. First, I would recreate a survey scale that had more than 5 levels. I believe that this flaw biased my responses higher and therefore distorted the self-reported levels of self-efficacy. Secondly, I would expand the sampling not only in size, but the types of people included in this research. For this particular instance, it was necessary to recruit self-selected group of educators in the control group to match the same conditions in which the trained educators entered the treatment (CT3P program). In order to accurately measure the levels of the self-efficacy among the average educator in the coloured townships of Cape Town, I would just randomly select a larger number of educators in many more schools.

To better address the second research question, a longitudinal study on CT3P-trained teachers would be helpful for CT3P to evaluate the true impact of its program. This study was a snapshot on the current level of self-efficacy. Measuring the teachers' self-efficacy beliefs before and after the teacher training program would illustrate the changes in efficacy and stronger associations to the programs' effects on self-efficacy could be made.

Lastly, it would also be interesting if the level of self-efficacy were correlated to any other variables. If the same sample of teachers were given a questionnaire on their job satisfaction or teacher burnout, would they be as positive as their levels of self-efficacy? Running a multiple linear regression incorporating other biographical information that was already collected in this sample would also yield insights as to what other factors might account for the variation in self-efficacy levels. It would also be useful to see if the teachers' beliefs corresponded to actual improvements on student achievement, collaboration at the school level, and actual increase in participation from parents and community members. Following up with the same sample of teacher with another survey containing these questions would be a tremendous contribution by itself to the literature.

Conclusion: Implications for policy

The education system throughout South Africa, but particularly in disadvantaged township schools, is in crisis. As a nation that accounts for one of the biggest economies on the African continent, South Africa fails to generate similar large gains in its learners and to provide a quality level of education. In order to plan effective education reform measures, the government must involve the street level bureaucrats that interact with learners on a daily basis and ultimately control the level of education provided. Educators, however, constantly battle the elements of working in impoverished conditions without adequate remuneration, resources, or support from parents, the administration. The secondary symptoms that emerge within their classroom, in the form of learner misbehavior, apathy, and lack of discipline, only add to the group of barriers that prevent educators from doing their jobs properly.

In short of addressing all the problems South African educators face, which the government has failed to do post-apartheid anyways, the government should in the meantime supply teachers with the tools and strategies to cope with and tackle these challenges themselves.

This research offered a case study of one such program run by a NGO that may have supported the self-confidence of teachers to overcome these challenges. While statistically there was no difference in trained educators and non-trained educators, components of the CT3P training program show promise of increasing self-efficacy levels. In particular, having educators master a specific task of creating an extra-mural program at their school appears to have translated a level of self-confidence into action. This research shows promise in a government partnership with an NGO to address a small component of the education problem, especially given the resource constraints of the government. I believe that NGOs and the government should continue to find ways to work together to invest in educators and their self-efficacy through training programs to provide better education quality for learners throughout South Africa so that the quality of education that learners receive shouldn't have to depend on which side of the railroad tracks they are born on.

APPENDIX A. TABLES & CHARTS

Table 1: Average Score in the TIMSS 1999 and TIMSS 2003 Grade 8 Mathematics and Science achievement tests

	Mathematics	Science
TIMSS 1999		
SA average score	275	243
International average score	487	488
TIMSS 2003		
SA average score	264	244
International average score	467	474

Table 2: Mean reading and mathematics scores of all participating countries in the SACMEQ II project

Country	Reading	Mathematics
Botswana	521.1	512.9
Kenya	546.5	563.3
Lesotho	451.2	447.2
Malawi	428.9	432.9
Mauritius	536.4	584.6
Mozambique	516.7	530.0
Namibia	448.8	530.9
Seychelles	582.0	554.3
South Africa	492.3	486.1
Swaziland	529.6	516.5
Tanzania	545.9	522.4
Uganda	482.4	506.3
Zambia	440.1	435.2
Zanzibar	478.2	478.1
SACMEQ	500.0	500.0

Table 3: MLA percentage average scores for numeracy, literacy and life skills: 1999

Country	Numeracy average	Literacy average	Life skills average
Botswana	51.0	48.0	56.0
Madagascar	43.7	54.7	72.1
Malawi	43.0	35.0	77.0
Mali	43.6	51.8	56.9
Mauritius	58.5	61.0	58.0
Morocco	56.4	67.6	62.3
Niger	37.3	41.1	44.7
Senegal	39.7	48.9	45.7
South Africa	30.2	48.1	47.1
Tunisia	60.4	77.9	74.7

Uganda	49.3	58.7	66.8
Zambia	36.0	43.0	51.0

Table 4: Percentage of qualified educators by level of education: 1998 to 2005

Year	Primary	Secondary	Total
1998	63.2	89.1	73.1
1999	63.3	89.1	73.1
2000	67.9	95.4	78.6
2001	67.6	82.4	73.9
2002	77.9	93.3	83.9
2003	84.0	93.0	87.5
2004	84.2	92.6	87.5
2005	84.2	92.6	87.1

Table 5. Percentage of distribution for 22 interview questions

#	Statement: How confident are you in your ability to...	1	2	3	4	5	Avg
1	Motivate the top 5 students in the class?	1	2	4	23	69	4.57
2	Motivate the top 10 students in the class?	1	0	5	40	54	4.46
3	Motivate the middle 5 students in the class?	1	0	12	42	44	4.28
4	Motivate the bottom 5 students in the class?	2	7	21	48	41	3.98
5	Improve the scores of your most struggling students?	1	7	17	37	37	4.01
6	Get students to learn when there is a lack of support from home?	1	15	11	40	33	3.89
7	Motivate students who show no interest in school work?	1	14	16	37	32	3.85
8	Motivate students to join extra-curricular activities	0	30	4	2	40	4.37
9	Motivate students to work well together?	0	4	2	40	54	4.45
10	Increase the self-efficacy of your students?	0	7	6	47	40	4.18
11	Get students to follow classroom rules?	0	5	9	42	44	4.26
12	Keep your students on task in class?	0	4	7	42	47	4.33
13	Control disruptive behavior in the classroom?	0	4	10	43	43	4.27
14	Influence important decisions made in your school?	0	14	23	40	23	3.74
15	Express your views freely on important school matters?	1	12	14	31	42	4.01
16	Make the school a safe environment?	1	2	17	41	38	4.13
17	Increase collaboration among teachers?	1	10	21	41	27	3.83
18	Increase racial tolerance in your school?	0	5	15	37	43	4.20
19	Get parents to become involved in school activities?	0	11	26	35	28	3.82
20	Assist parents in helping their child do better in school?	1	4	19	32	44	4.15
21	Get community groups to become involved with the school?	1	14	37	28	20	3.52
22	Reach out to the community in order to reach your teaching objectives?	4	10	31	36	20	3.60

Table 6. Summary of school data

School	CostYr	PovQuint	TotPop	TotTeache r	Ratio	NUM09	LIT09	NUM08	LIT08
Montagu's Gift	180	4	523	16 (2)	50	4	38	N/A	N/A
Plantation	500	5	920	27 (7)	40	19	66	55	66
Sid G. Rule	1500	5	850	24 (5)	38	50	85	75	87
Rockland	350	5	739	25 (6)	41	18	62	30	57
Carandale	230	4	832	23 (3)	40	10	46	11	31
Kannemayer	800	5	500	20 (7)	35	51	85	44	89
Wavecrest	400	4	632	19 (4)	33	38	41	34	27
Sea View	300	4	882	24 (5)	26	30	68	42	64
Eisleben Rd.	250	4	907	25 (3)	38	6.8	56.8	40.4	68.1
Capricorn	75	4	513	19 (7)	35	N/A	N/A	9.5	14.3
Sample Avg	458.5	4.4	729.8	22.2	37.6	25.2	60.9	37.9	55.9
WC Avg						17.4	48.6	35	53.5

CostYr = annual school fees in Rand; PovQuint = WCED designated poverty quintile, with 5 indicating the most well-off neighborhoods; TotPop = total student population; TotTeacher = total teacher population (number of teachers paid by School Governing Board); Ratio = Student:Teacher ratio; NUM09 = school's average on nationwide numeracy exam for 6th grade students; LIT09 = average literacy exam score for 6th grade students; NUM08 = average numeracy exam for 3rd grade students; LIT08 = average literacy exam score for 3rd grade

Table 7. Summary of survey participant data

Cohort	Avg Age	Avg YrsTeach	Avg YrsSameScl	Gender % Female	EduLevel % w/ univ. deg.
CT3P-trained (n=27) SD:	43.92 9.66	21 9.58	14.95 8.40	85	15
Non-trained (n=24) SD:	38.58 9.69	14.04 10.82	4.43 5.87	87	33
Control (n=30) SD:	45.58 9.24	20.07 9.49	11.87 9.70	83	30
Total (n=81) SD:	42.90 9.66	18.56 9.49	11.26 9.30	85	26

AvgAge = average age; AvgYrsTeach = average teaching experience in years; AvgYrsSameScl = average teaching experience at current school in years; Gender = percentage of females; EduLevel = percentage of those whose highest education level is university degree (compared to college degree or some university).

Table 8. Cronbach's test for internal consistency

Composite variable	Question #s	Cronbach α -coeff
Student performance	5-8, 10	0.90

Classroom management	9, 11-13	0.85
School environment/ colleague interaction	14-18	0.89
Community/parent engagement	19-22	0.86
All	1-18	0.94

Table 9. One-way ANOVA pair-wise comparison with Bonferroni adjustment

	Student Performance	Class Management	School Environment	Community Participation
Trained v. Non-trained	.55	.67	.83	.88
Trained v. Control	-.89	-.40	-.47	-.69
Non-trained v. Control	-.34	.27	.36	.19
F	1.74	1.05	1.43	2.79
* $p < .05$	** $p < .01$	*** $p < .001$		

APPENDIX B. CHARTS & FIGURES

Figure 1. Proportion of schools reporting a teacher absenteeism problem, by school SES
Source: SACMEQ II Project, 2000

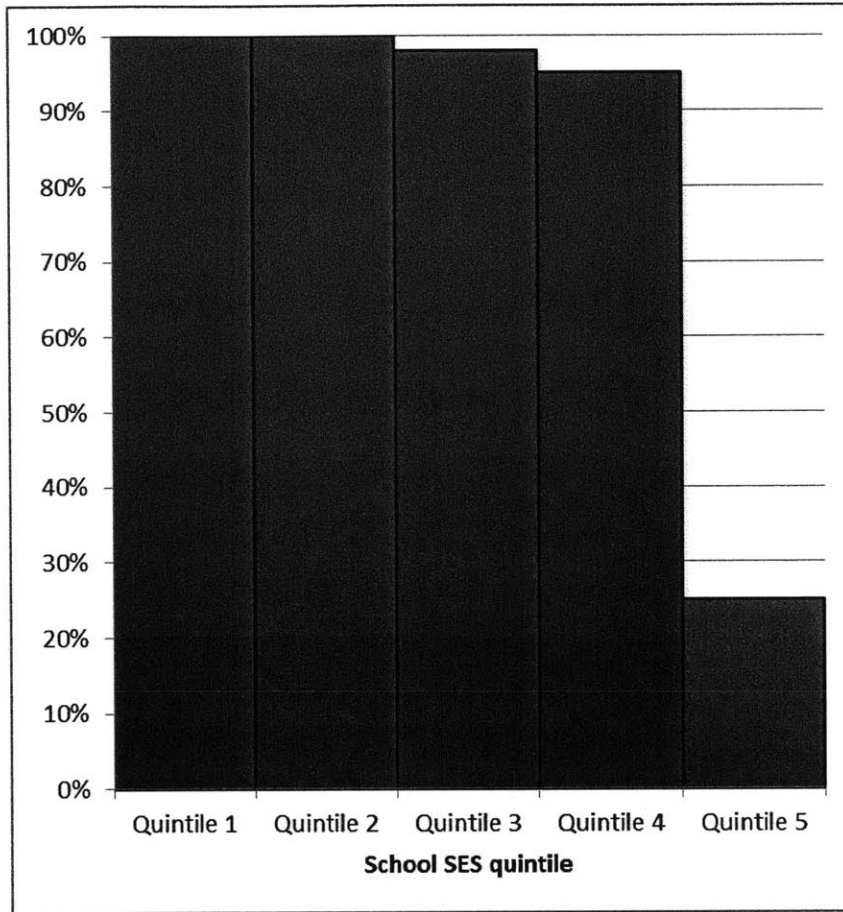


Figure 2. Years of teaching experience of respondents

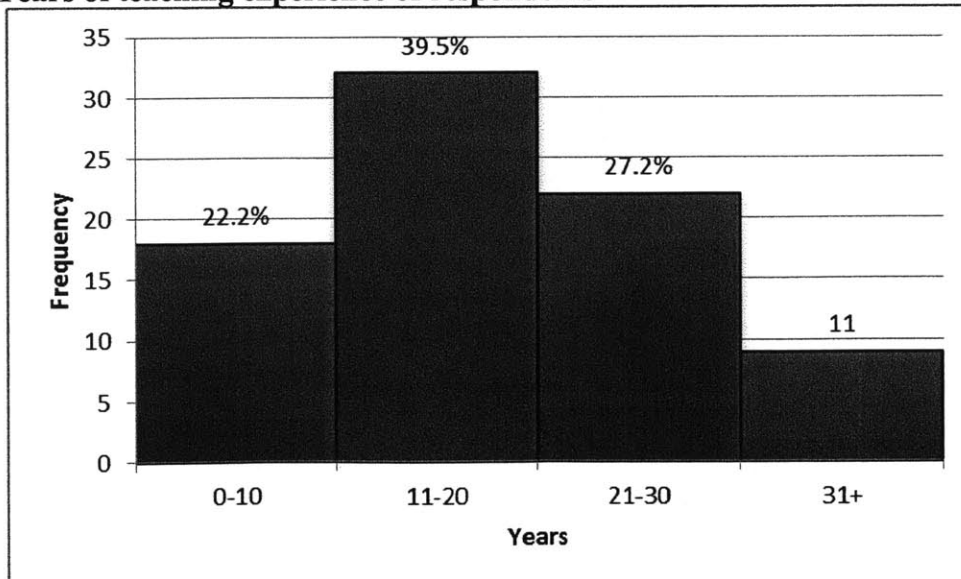


Figure 3. Grade levels taught by respondents

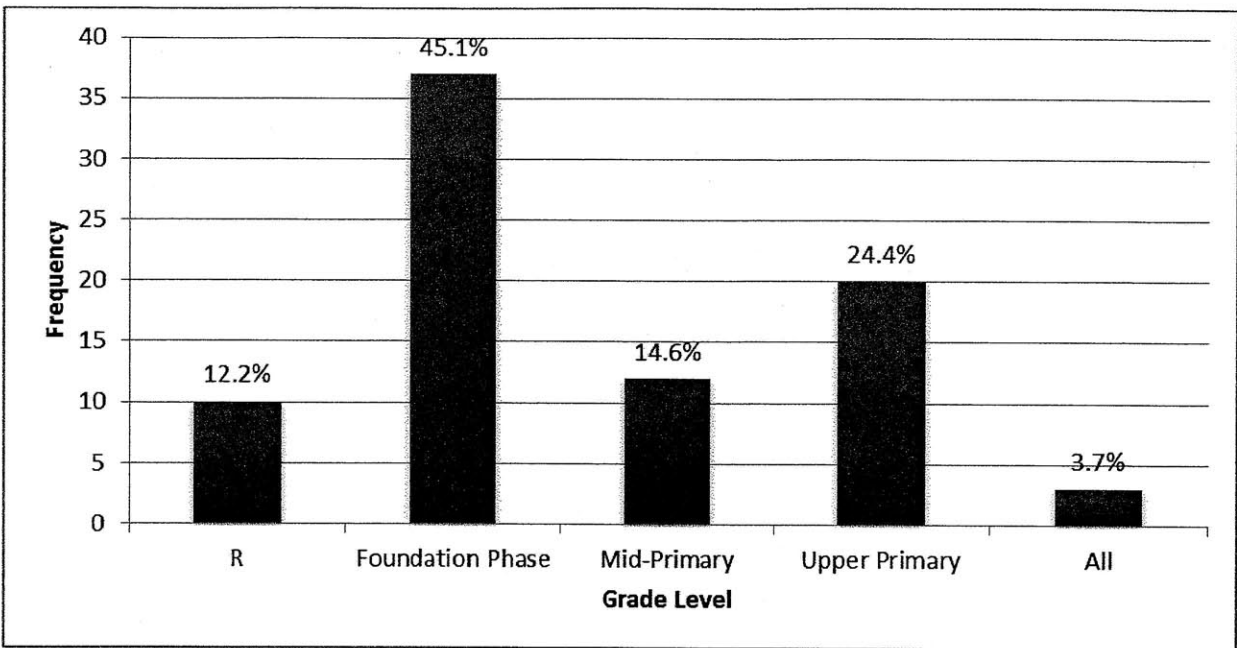


Figure 4. Gender of respondents

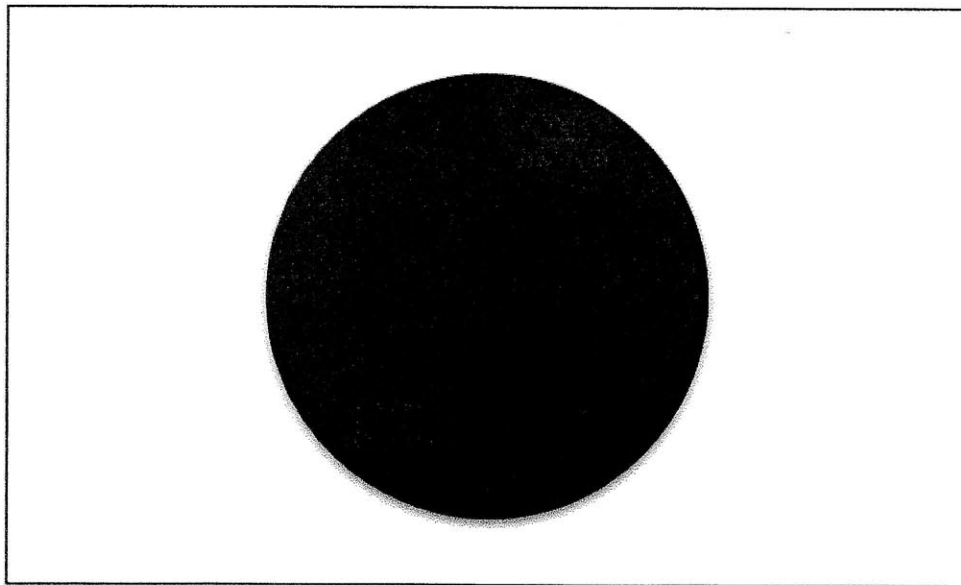


Figure 5. Age of educators, by group

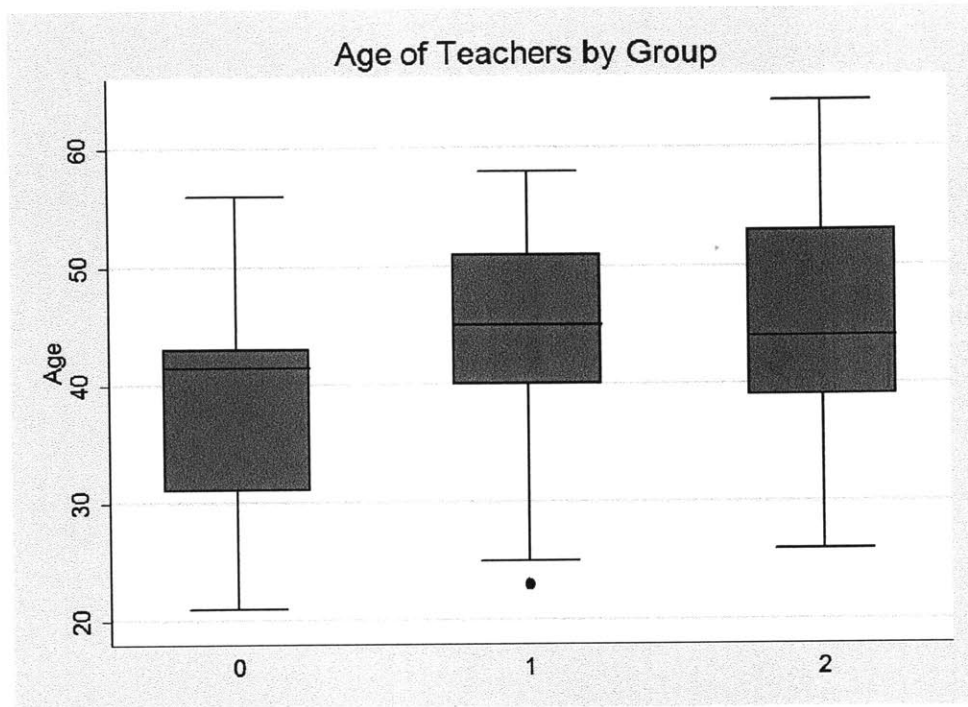


Figure 6. Student pass rates in 2008 & 2009, by group

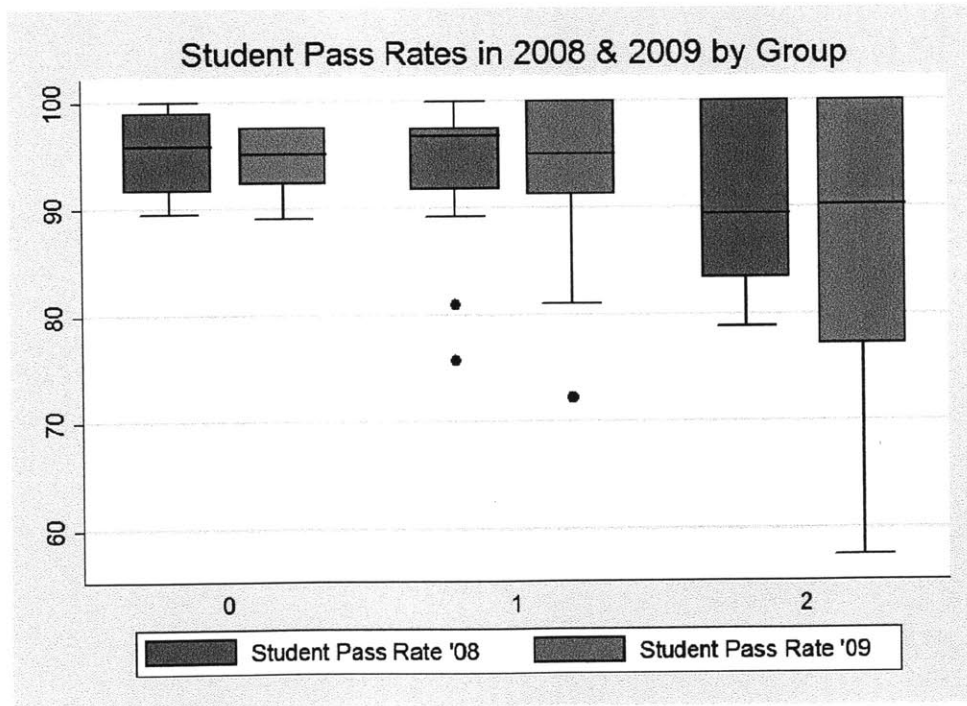


Figure 7. Educators' class size, by group

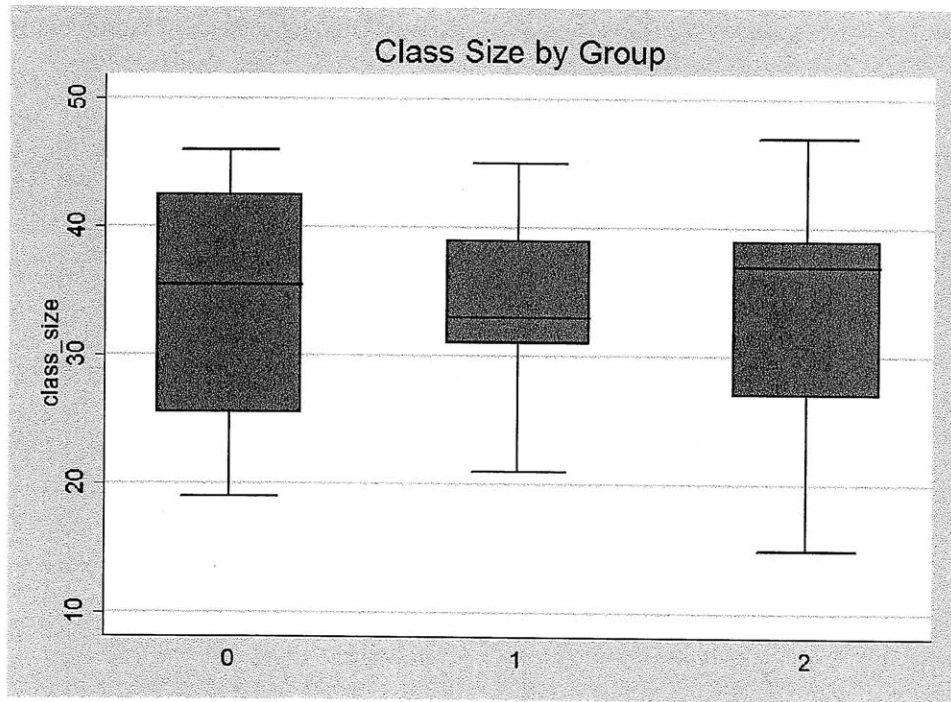


Figure 8. Years of teaching experience, by group

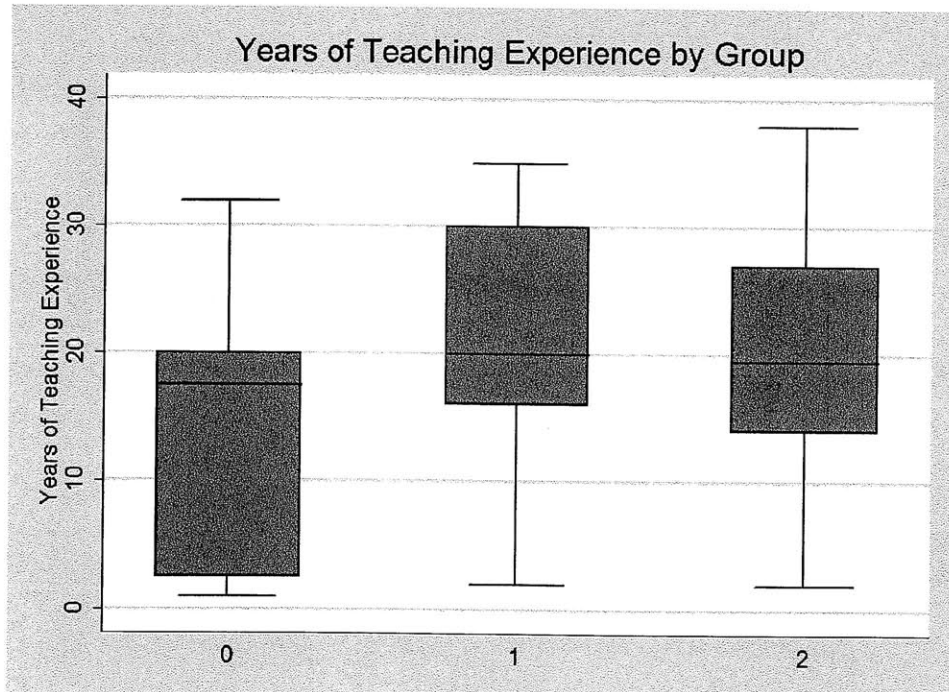
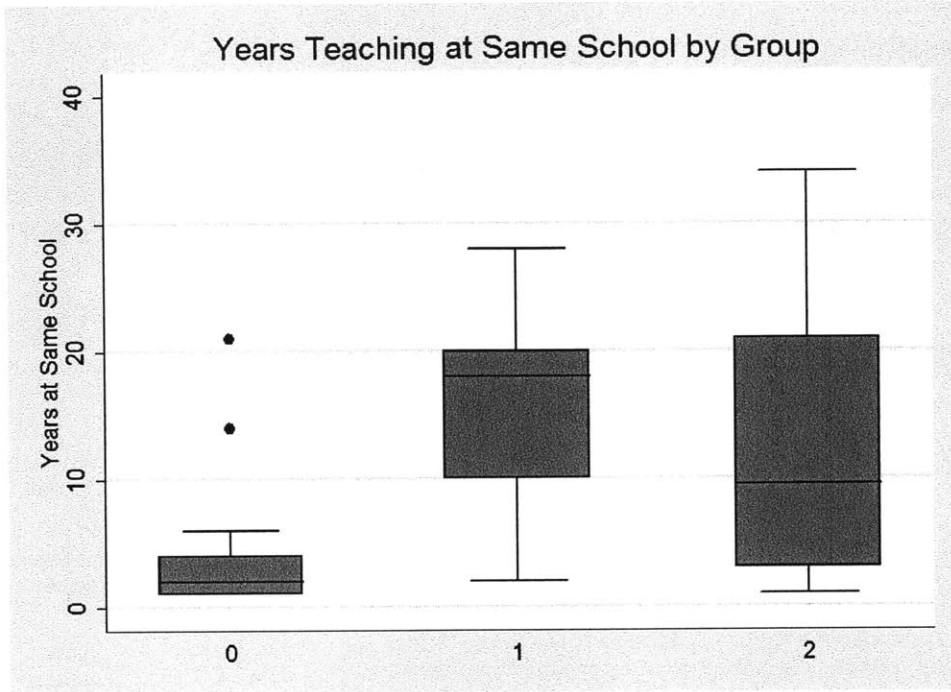


Figure 9. Years of teaching at the same (current) school, by group



APPENDIX C. QUESTIONNAIRES

Questionnaire 1. Bandura's Teacher Efficacy scale

Source: Bandura, 2006

Teacher Self-Efficacy Scale

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please rate how certain you are that you can do the things discussed below by writing the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
Cannot do at all				Moderately can do			Highly certain can do			

	Confidence (0-100)
Efficacy to Influence Decision Making	
Influence the decisions that are made in the school	_____
Express my views freely on important school matters	_____
Get the instructional materials and equipment I need	_____
Instructional Self-Efficacy	
Get through to the most difficult students	_____
Get students to learn when there is a lack of support from the home	_____
Keep students on task on difficult assignments	_____
Increase students' memory of what they have been taught in previous lessons	_____
Motivate students who show low interest in schoolwork	_____
Get students to work well together	_____
Overcome the influence of adverse community conditions on students' learning	_____
Get children to do their homework	_____
Disciplinary Self-Efficacy	
Get children to follow classroom rules	_____
Control disruptive behavior in the classroom	_____
Prevent problem behavior on the school grounds	_____
Efficacy to Enlist Parental Involvement	
Get parents to become involved in school activities	_____
Assist parents in helping their children do well in school	_____
Make parents feel comfortable coming to school	_____
Efficacy to Enlist Community Involvement	
Get community groups involved in working with the school	_____
Get businesses involved in working with the school	_____
Get local colleges and universities involved in working with the school	_____
Efficacy to Create a Positive School Climate	
Make the school a safe place	_____
Make students enjoy coming to school	_____
Get students to trust teachers	_____
Help other teachers with their teaching skills	_____
Increase collaboration between teachers and the administration to make the school run effectively	_____
Reduce school dropout	_____
Reduce school absenteeism	_____
Get students to believe they can do well in school work	_____

Questionnaire 2. Teacher self-efficacy interview

1. How did you get into the profession of teaching?
 - a. If you had other jobs previously, in comparison, how hard is teaching?
2. How did you decide to get involved with EMEP?
 - a. What do you like about the EMEP training program?
 - b. What (teaching) benefits/skills have you experienced/gained since participating in the EMEP training program?
3. What are your main teaching objectives?
4. What are some of the major challenges you face from achieving your teaching objectives?
5. What do you think are the biggest factors in affecting teachers' (or your specific) confident level in achieving teaching objectives?
6. What are some of the barriers you faces that negatively affect your self-efficacy?
 - a. What would help you become more self-efficacious/confident in your ability to overcome difficulties in teaching?
7. What do you think are essential factors of creating a "good"/competent teacher?
 - a. Why do you think so?
 - b. Do you think you have these qualities? Why/why not?
8. What do you find as the easiest/hardest aspect of teaching?
 - a. Do you feel confident in your own abilities in realizing the easiest/hardest aspects of teaching?
 - b. What led you to become confident in that area?

APPENDIX D. BIBLIOGRAPHY

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