

Abstract

- 1. Title of the project:** Executive Coaching for Principal Development
- 2. RFA topic and goal:** Improving Education Systems: Policies, Organization, Management, and Leadership
- 3. Brief description of purpose:** The purpose of this Exploration project is to apply executive coaching methodologies to school principals as an intervention within the K-12 environment. There are two major aims for the project: (a) determine the feasibility of applying executive coaching to school principals for personal and professional development and (b) evaluate the impact of this leadership development intervention on broader student learning outcomes.
- 4. Brief description of the setting in which research will be conducted:** Researchers at George Mason University will develop the intervention. Assessments and executive coaching of principals will take place within the 109 public schools in Washington D.C. Executive coaching sessions will take place telephonically.
- 5. Brief description of the populations from which the participants of the exploratory research will be sampled:** Approximately 100 principals will be sampled from among the 109 K-12 schools in Washington D.C. to serve as participants in this study. The number may vary based on principals that have been identified as not being available for the entire study period due to transfer or retirement.
- 6. Brief description of the intervention:** The executive coaching intervention includes three major components, (a) a self-assessment of leadership skills and aptitudes, (b) a 360 assessment of leadership skills and aptitudes, (c) executive coaching of study participants.
- 7. Brief description of the primary research methods:** This study will use a quasi-experimental design consisting of pre- and post-test leadership surveys to identify areas of leadership to be addressed and measured by certified executive coaches. An assessment of measures of school improvement will be conducted annually at the end of each school year.
- 8. Brief description of measures and key outcomes:** Assessments used to evaluate the malleable factors of the study include the Multifactor Leadership Questionnaire, Goal Attainment Scaling, Cognitive Hardiness Scale, Depression Anxiety and Stress Scale, Workplace Well-Being Index, Leadership Styles Index. Assessments were chosen due to their widely accepted use in the corporate environment, as well as their proven validity and reliability. These assessments will facilitate coaching for principal leadership development. Annual assessments of the measures of school improvement will measure the impact of principal leadership development on the student learning outcomes of their respective schools.
- 9 Data analytic strategy:** Leadership and personality assessments will be analyzed using Analysis of Variance (ANOVA), Shapiro-Wilk test, and paired *t*-test. Measures of school improvement will be analyzed using paired *t*-test, ANOVA, and regression analysis

## Executive Coaching for Principal Development

### Goal 1: Improving Education Systems: Policies, Organization, Management, and Leadership

#### 1.0 SIGNIFICANCE

##### 1.1 Project Aims

The National Center for Education Statistics Research (2011, 2012, & 2013) identified that two-thirds or more of eighth graders in the United States lack basic proficiency in reading, writing, math, and civics. Teacher preparedness is vital for student achievement, yet teachers regularly enter the profession unprepared. However, developing teaching skills is only part of the solution. A joint study by the Universities of Minnesota and Toronto noted that leadership is second only to teaching among school-related factors in its impact on student learning (Louis, Leithwood, Wahlstrom, & Anderson, 2010). Successful school leadership, and the leadership of principals in particular, plays a pivotal role in supporting teaching and learning (Figure 1).

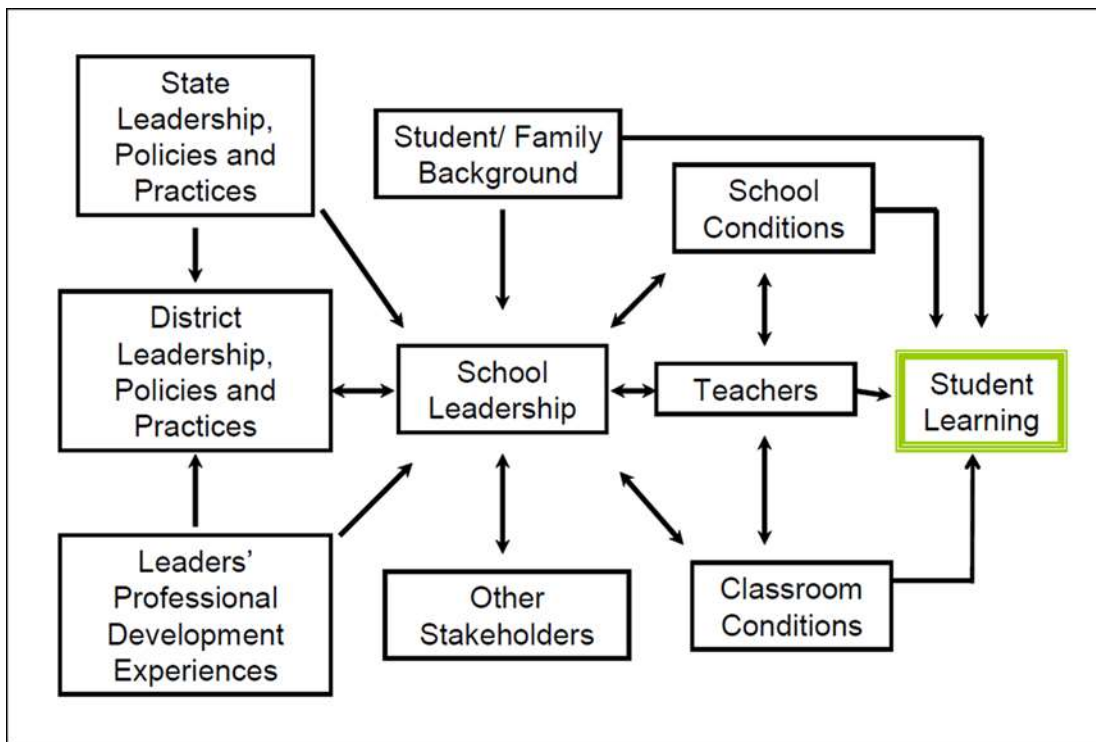


Figure 1. Leadership Influences on Student Learning (Louis, Leithwood, Wahlstrom, & Anderson, 2010, p. 14)

Corporations in the United States and abroad recognize the value of executive coaching as a popular and effective leadership development strategy. Coaching is defined by the International Coach Federation as “partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential” (International Coach Federation, 2014). In a study of 140 business executives, the top agenda items for executive coaches were developing the leadership skills of high potentials or facilitating their

transition, acting as a sounding board for leaders, and addressing potentially derailing behaviors (Coutu & Kaufman, 2009)

Most definitions of leadership include the common theme of impacting change through goal setting and goal achievement. Leadership is changed-focused and a challenge to the status quo (Cairns, 2000), and must therefore be conducted with a view to both the art and science of leadership (Bueno, 2005). This change occurs across a continuum from self-leadership through the various levels of leading others, managers, teams, projects, programs, organizations, and enterprises as illustrated in Figure 2.

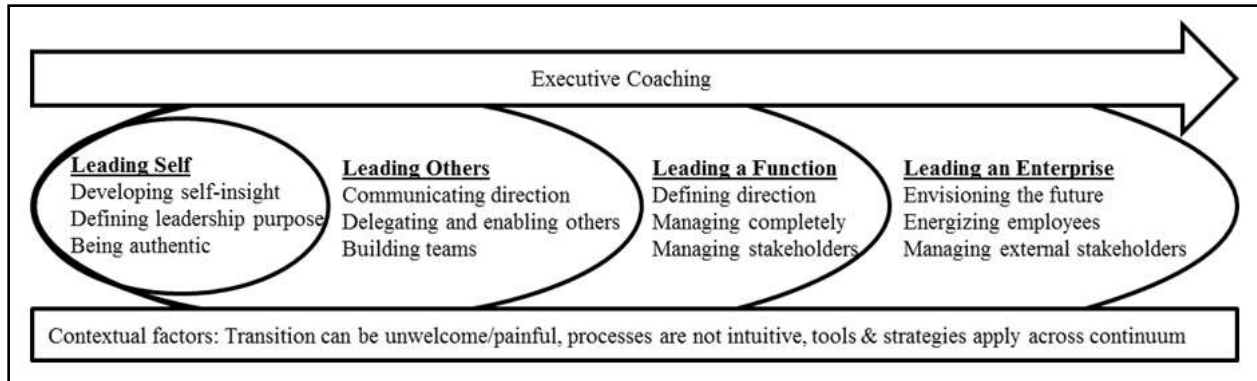


Figure 2. A Coaching Continuum

The skills required at each level differ, but each can be developed or improved through the application of the appropriate coaching intervention. These are considered the malleable factors of behavior.

**Challenges to Leading Self.** Prepare for management or leadership role, build a common leadership language within an organization, increase personal effectiveness and performance. Required Competencies (*malleable factors*): Establishing credibility, leading with purpose, delivering results, doing whatever it takes, interpersonal savvy, embracing flexibility, tolerating ambiguity, understanding one’s own values and culture

**Challenges to Leading Others.** Transition from individual performer to leading a team, build relationships to get work done, deal effectively with conflict, solve problems successfully. required Competencies (*malleable factors*): Coaching and developing others, leading team achievement; building and maintaining relationships, resolving conflict, learning to delegate, innovative problem solving, embracing change, adapting to cultural differences

**Challenges to Leading Managers.** Integrate cross-functional perspectives in decisions, handle complexity, manage politics, sell ideas to senior leaders, select and lead managers for high performance. Required Competencies (*malleable factors*): Thinking and acting systemically, managing organizational complexity, negotiating adeptly, selecting and developing others, taking risks, implementing change, managing globally dispersed teams, building resiliency

**Challenges to Leading the Function.** Set vision and build toward the future, balance trade-offs between the short and long-term, align the organization for strategy implementation. Required Competencies (*malleable factors*): Being visionary, driving results, strategic thinking and acting, creating engagement, identifying innovation opportunities for new businesses, working across boundaries, leading globally

**Challenges to Leading the Organization:** Set organizational direction, foster alignments across the organization, gain commitment for performance, refine and build strong executive persona. Required Competencies (*malleable factors*): Creating and articulating vision, creating strategic alignment, developing a leadership and talent strategy aligned with business strategy, leading the culture, executive image, creating a culture of innovation, catalyzing change, leading outwardly

Each of these challenges can be addressed by a series of competencies as illustrated above; however, there are four fundamental leader competencies that cut across all of these areas and have the greatest potential for delivering desired results: *self-awareness, learning agility, influence, and communication*. The aim of this study is to apply the executive coaching methodologies that have proven successful in developing corporate leaders to a school environment for the further development of the leadership abilities of school principals.

## 1.2 Rationale.

Some public school districts in the United States face a crisis in leadership due to high turnover, difficulties in replacing principals, and a perceived lack of skills of available principals. The American Recovery and Reinvestment Act of 2009 (ARRA) provided an unprecedented \$97.4 billion in federal funds for education, of which \$3 billion were allocated to expand the School Improvement Grant (SIG) program (Garissson-Mogren, Gutman, & Bachman, 2012). This expansion enabled a low-performing school to receive as much as an additional \$2 million per year for three years. School turnaround was also a focus of Race to the Top (RTT), another initiative supported by the ARRA, which provided approximately \$4 billion in education reform grants for states (Garissson-Mogren et al., 2012). Both RTT and SIG promoted four intervention models:

**Turnaround.** Required districts to *replace the principal of the school*, rehire no more than 50 percent of the staff, and grant the new principal sufficient operational flexibility (e.g., allow the school to make decisions typically made at the district level in areas such as hiring and firing, length of the school day, and budget) to implement a comprehensive approach to improving student outcomes.

**Restart.** Required districts to convert the school into a charter or *close and reopen* it under a charter school operator, charter management organization, or education management organization that has been selected through a rigorous review process.

**Closure.** Required districts to *close the school* and enroll its students in higher-achieving schools in the district.

**Transformation.** Required districts to *replace the principal of the school* and take steps to increase teacher and school leader effectiveness, institute comprehensive instructional reforms, increase learning time, create community-oriented schools, and provide operational flexibility and sustained support.

Major federal education legislation, such as No Child Left Behind and Race to the Top, promote top-down, formulaic turnaround strategies and school closures that identify schools as failing based on standardized test scores. A study of Chicago’s experiment with major school reform between 1988 and 1996 shows, however, that a strategy focused on firing teachers or *replacing principals cannot turn around schools that face multiple obstacles* (Herman, Graczewski, James-Burdumy, Murray, Perez-Johnson, & Tanenbaum, 2013). The option that none of these models considered was that of developing school leaders rather than replacing them.

Research on educational and organizational change shows that the change process is characterized by a variety of ‘predictable’ obstacles, one of the most significant being the absence of leadership (Pettigrew, Woodman, & Cameron, 2002). A review of the literature identifies coaching as an effective methodology for developing leadership skills, enhancing well-being, and facilitating goal attainment within organizational settings (Diedrich, 1996). Grant, Green, & Rynssardt (2010) found that participation in a leadership coaching program was associated with significant reductions in passive/defensive and aggressive/defensive leadership styles and significant improvement in constructive leadership styles. These results further contributed to higher scores for resilience and workplace well-being when compared with a control group. A study by Branch, Hanushek, and Rivkin (2013) found that the effect of highly effective principals on student achievement is equivalent to 2-7 months of additional learning each school year, while ineffective principals negatively impact student achievement by a comparable amount (Table 1).

Table 1

*A Study of Texas School Principals (Branch, Hanushek, & Rivkin, 2013).*

<b>Methods and Results</b>			
All three methods find that school principals have a substantial impact on student achievement.			
<b>Method used to estimate the impact of school principals</b>	<b>Sample used to estimate the impact of school principals</b>	<b>Standard deviation of principal effects</b>	<b>Annual impact of having an effective rather than an ineffective principal</b>
1. Math achievement gains adjusted for student background characteristics and school mobility rates	Texas principals in their first three years of leading the school	.21	+16 percentile points of student achievement
2. Difference in average adjusted math achievement gains between students attending the same school	All Texas principals	.11	+8 percentile points of student achievement

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under different leaders			
3. Additional year-to-year fluctuation in average adjusted achievement gains surrounding a leadership transition	All Texas principals	.05	+4 percentile points of student achievement
Note: The standard deviation of principal effectiveness is reported in standard deviations of student achievement. An effective principal is one at the 84 <sup>th</sup> percentile of the quality distribution; an ineffective principal is one at the 16 <sup>th</sup> percentile. The impact of an effective principal is reported for the median student.			

This current study will illustrate how the application of executive coaching contributes to the continued improvement of school leaders at all levels. The study provides a means for development along a continuum from self-leadership skills (self-observation, goal-setting, self-reinforcement) to leadership of an enterprise (visioning, strategic planning, managing external stakeholders).

School leaders typically share a common background of motivation, professional knowledge, and challenges through their respective careers as classroom teachers. At any level, making a transition to a leadership role can be a difficult personal challenge. For some, making the transition from teacher to leader can seem like they abandoned their children and their chosen profession (Dyer & Renn, 2010). Many new leaders must reassess their ways of thinking about how to communicate, plan, and build and manage teams. The study will introduce a set of skills that transcends position, and will create a shared vision for continued improvement of the educational system.

### 1.3 Practical Importance

The operating environment for corporate entities, such as businesses, government, and even schools, has become increasingly more complex as they undergo multiple change initiatives at any given time. Economic uncertainty, technological advancements, and the need to recruit and retain a qualified workforce challenge even the strongest organizations. Increased globalization encourages organizations to transfer jobs and investment spending to less developed countries. Change can be painful, and major change initiatives require a workforce that has the ability to apply focus and effort to become facilitators rather than impediments. New and innovative approaches to overcome the negative impact of these factors are required and many organizations have integrated quality improvement processes for both the corporation and the individual.

At the corporate level, process improvement methodologies such as Total Quality Management, Lean, and Six Sigma (and the combined Lean Six Sigma) have catapulted businesses to the top of their niches. In the 1980s, Motorola engineers developed the Six Sigma as a measurement standard to improve the quality level of their products, resulting in a documented savings of more than \$16 billion dollars (George, 2003). As the CEO of General Electric, Jack Welch adopted the Six Sigma quality program in 1995, setting a goal of producing virtually defect-free products and services by the year 2000. Six Sigma improved GE's

operational effectiveness, raised its productivity, and lowered its costs (Welch, 2005). Organizations attempt to create and perpetuate a quality culture and address these goals in their vision and strategy models.

Paralleling this developing in organizational quality processes has been the development of quality processes for individual development. Organizations have recognized the need to develop a more qualified workforce, and are leveraging the capabilities of executive and leadership coaching as a key component in the transformation of the workforce. The field of coaching has experienced exponential growth during the past 20 years, and is now an industry generating in excess of \$1.5 billion dollar annually (Gray, 2010). Its popularity can be attributed to its cost effectiveness in making its people and organizations more effective. The impact of coaching on a few key leaders can propel positive engagement throughout the organization. For those middle managers and high potential employees selected for coaching, it demonstrates the commitment of the company to the people (Ledgerwood, 2003).

Middle managers are often more a more challenging population, and perhaps the audience that is in greater need of coaching. Members of this group can vary significantly in their experience and confidence levels, as well as in their mastery of the “soft skills,” such as communication, negotiation, and team-building, required in a successful and thriving organization. Many at this level are still developing the necessary confidence to take risks and attempt new programs and processes to better determine their own unique form of management. Too often they default to the leadership patterns they see before them, often examples that conflict with their own values and leadership styles. Although they are clearly in need of development, the expense of coaching, especially external coaching, can be prohibitive. This is where a group coaching program or manager-as-coach is an extremely useful option (Deaton & Williams, 2014)

There are numerous niches and specialties in coaching, but the common theme is their ability to develop within the individual the skills and strategies need for self-leadership, which is reflected in the corporate organization as a more effective leader. The coaching client gains greater understanding in how to assess current strengths, clarify developmental goals, and identify current obstacles and options (Joiner & Josephs, 2006). Emerging evidence suggests that coaching programs help in the promotion of individual initiative and responsibility, objectives that are important to any successful organization (Ledgerwood, 2003).

### **1.4 Future Work**

Past research has demonstrated that coaching can improve mental health and well-being. This study extends research that identifies coaching as an effective methodology for developing leadership, enhancing well-being, and facilitating goal attainment within organizational settings. Support for new leaders will be operationalized in this project as including participation in a mentoring/coaching program; a series of leadership development activities sponsored by a principal’s senior management; specific training in instructional supervision; and participation on colleague-critical support teams.

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At present, a study has not been conducted to analyze the alignment of executive coaching practices with effective leadership practices of principals, and their subsequent impact on student learning. This study may be beneficial to school administrators, national policymakers, and other educational leaders throughout the United States who are concerned with helping every child to be a successful learner. School principals throughout the United States may be encouraged to participate in the use of executive coaching methodologies as a result of research findings, if the results indicate that the training has an impact on improved student learning. Other educational leaders would also be interested in the results of this study as related to principal practices, if any, that indicate a significant difference in promoting student learning.



## 2.0 RESEARCH PLAN

### 2.1 Research Design

This study will explore the impact of executive coaching on the development of leadership skills in a sample of high school principals in the Washington D.C. public school system. Executive coaching has been proven effective in developing the leadership skills of corporate executives, and is therefore anticipated to deliver similar results in a school environment where principals face similar executive challenges. The research questions for this study are:

1. What impact does executive coaching have on improving the self-leadership abilities of school principals?
2. What impact does executive coaching have on improving leadership capability of school principals to lead others?
3. How is school performance impacted by the application of executive coaching methodologies to school principals?

This study will use a quasi-experimental design consisting of pre- and post-test leadership surveys, and will take place over five phases:

**Phase 1: Pre-coaching assessment.** After an initial introduction and explanation of the program, study participants will complete a battery of assessments to measure a broad spectrum of leadership characteristics. The assessments were chosen based on their use in the corporate environment as well as their proven reliability and validity. These assessments include:

*The Multifactor Leadership Questionnaire (MLQ).* Measures a broad range of leadership characteristics and includes both a self-assessment form, designed to measure the self-perception of leadership behaviors, and a rater form, designed to measure leadership as perceived by superiors, peers, and subordinates.

*Goal Attainment Scaling (GAS).* Supports the development of self-leadership skills and different aspects of transformational and constructive leadership.

*The Cognitive Hardiness Scale (CHS).* Evaluates resilience by measuring an individual's sense of personal control, ability meet challenges, and commitment to action.

*Depression Anxiety and Stress Scale (DASS).* Measures degrees of psychopathology.

*Workplace Well-Being Index (WWBI).* Assesses the degree of well-being and satisfaction that individuals gain from their work

*Leadership Styles Index (LSI).* Measures specific of thinking and behavioral styles.

**Phase 2: Executive coaching.** After completing the battery of assessments, participants will be randomly assigned to an executive coach. The coaching sessions will be based on a cognitive, solution-focused framework (Grant, 2003). This framework suggests that goal attainment is best facilitated by understanding the relationships between one's thoughts, feelings, behavior, and the environment, and purposefully organizing these so as to best support goal achievement. Incorporating a solution-focused perspective into a cognitive-behavioral framework helps ensure that the coaching is orientated toward the development of personal strengths and goal attainment.

24 coaching sessions of 45-60 minutes each will be conducted over a 6-month period, scheduled at one to two week intervals. Coaching will be conducted by 10 experienced executive coaches who will be randomly assigned to 10 clients each. Coaches will be certified by the International Coach Federation (ICF). Coaches are graduates of an ICF-accredited training program and they have a minimum of 750 hours of professional coaching experience. Coaching sessions will be conducted telephonically. Telephonically coaching sessions are more cost effective for both clients and coaches. Research has demonstrated that there are no significant differences in working alliance or problem resolution when comparing face-to-face and distance coaching conditions (Berry, Ashby, Gnilka, & Matheny, 2011).

The coaching intervention used for this study is known as the GROW model. GROW is an acronym for Goals, Reality, Options/Obstacles, and Will/Way Forward. GROW is a process that is easily understood, thorough, and straightforward to apply. By working through each stage of this model, clients gain clarity about their true goals and ambitions, develop a greater understanding of their current reality, identify and evaluate the possibilities that are available to them, and create action plans to achieve their personal and professional goals (Whitmore, 2002).

During the initial coaching session, the coaches will debrief their respective clients about the result of the self and rater assessments. The coach will also explain the methodology for the program. During this session, specific goals will be established based on assessment feedback. Clients are sometimes surprised by the way their management style is perceived by those around them, especially if they lack the ability to be reflective of their own actions and attitudes. Coaches will contact participants within 48 hours of the initial session to ensure any negative feedback disclosed during the rater assessment debrief is not having an adverse impact on the mental state of the participant.

After the initial assessment debriefings, coaches will work with the clients to explore how their values align with their personal and professional goals. Coaches are trained to assist clients in simplifying difficult issues and to present alternative perspectives to the client that can help them clarify their ideas. The focus of the sessions will change over time as the clients go deeper into examining their personal and professional goals, but each session follows the same structure. At the beginning of each session, clients specify what they want to accomplish in the session and are asked to define their own measure of accomplishment for whether they have achieved the goal for the session. During the discussions, coaches provide a safe, non-judgmental place to explore new ideas and challenges related to the clients achieving their goals. Coaches encourage deep inquiry and self-reflection and provide honest feedback.

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Coaches will maintain a detailed journal of each coaching session indicating what coaching approaches worked with their clients, what needed improvement, and whether or not there were any difficulties with the sessions that needed to be addressed by the participants' supervisor. These notes will be reviewed in formal supervision sessions with the Principal Investigator of this study who is a certified and experienced leadership and executive coach.

**Phase 3: Post coaching assessment.** Study participants will be re-administered the Multifactor Leadership Questionnaire (MLQ), Goal Attainment Scaling (GAS), Cognitive Hardiness Scale (CHS), Depression Anxiety and Stress Scale (DASS), Workplace Well-Being Index (WWBI), and Leadership Styles Index (LSI). Researchers will analysis the data collected from Phase 1 and Phase 3 using the measures identified in paragraph 2.3 below to determine the effectiveness of the executive coaching intervention.

**Phase 4: Ten-month post-coaching assessment.** Study participants will be re-administered the Multifactor Leadership Questionnaire (MLQ), Goal Attainment Scaling (GAS), Cognitive Hardiness Scale (CHS), Depression Anxiety and Stress Scale (DASS), Workplace Well-Being Index (WWBI), and Leadership Styles Index (LSI). Researchers will analysis the data collected from Phase 1, Phase 3, and Phase 4 using the measures identified in paragraph 2.3 below to determine the effectiveness of the executive coaching intervention. A ten-month post-coaching assessment was chosen based on research conducted by Bracken, Timmreck, & Church (2001), who determined the optimal time test–retest period for multi-rater feedback measures is between 6 to 12 months .

**Phase 5: Post coaching school assessments.** Phase 5 assessments will be conducted during years 3-4 to determine the degree to which executive coaching for developing principals has impacted student learning (outcomes). Baseline data analysis will be conducted during years 1-2. As results from the analysis of data from Phase 1, Phase, 3, and Phase 4 become available, they will analyzed with the results of Phase 5 data to determine the effectiveness of the executive coaching intervention on student learning outcomes.

## 2.2 Sample

The participants for this study will be principals ( $n = 100$ ) selected from the 109 K-12 schools comprising the Washington D.C. school system. The sample size was selected to account for potential attrition due to principal retirement or transfer during the research study. This study was coordinated with the District of Columbia State Board of Education, which will disseminate guidance and direction to principals encouraging their cooperation for the conduct of this study.

## 2.3 Measures:

**Leadership Aspects and 360 Degree Assessment.** The Multifactor Leadership Questionnaire (MLQ) measures various aspects of transformational-transactional leadership. The goal of the 360 degree feedback process is to raise participants' awareness of their current leadership and communication styles as perceived by those with whom the work, and to help them further develop more constructive leadership styles. The MLQ is considered to be the most

widely used instrument to assess transformational leadership (Kirkbride, 2006) and the best validated measure of transformational and transactional leadership (Ozaralli, 2003).

**Goal attainment scaling.** Goal Attainment Scaling was originally developed as a therapeutic model for mental illness and treatment, but was found to be effective for measuring goal selection and scaling for broader applications. Participants will be asked to identify one personal goal and one work-related goal that they wanted to achieve. The personal goal will support the development of self-leadership skills, and the work-related goal will focus on different aspects of transformational and constructive leadership. Participants will rate their success in goal accomplishment on a scale of 0% (no goal attainment) to 100% (full goal attainment). Participants will also rate the difficulty of the goal accomplishment on a scale from 1 (very easy) to 4 (very difficult). These scores will be multiplied together to provide a consistent scale upon which to measure across study participants. Participants will also rate the amount of time they devote to the accomplishment of these goals. This approach to goal attainment has been used in prior coaching outcome studies (Green, Oades, & Grant, 20006; Spence, 2007).

**Resilience.** The Cognitive Hardiness Scale (CHS) will be used to evaluate resilience. Research has shown that those individuals that demonstrate greater degrees of resilience are able to cope more effectively with stressful circumstances, resulting in improved health and reduced psychological issues resulting from stress. Measured on a 5-point Likert-type scale, the CHS measures an individual's sense of personal control, ability meet challenges, and commitment to action. The CHS has been used to explore stress and work absenteeism (Greene & Nowack, 1996), and executive coaching (Grant, Curtayne, & Burton, 2009).

**Depression, anxiety, and stress.** The Depression Anxiety and Stress Scale (DASS) measures degrees of psychopathology. DASS isolates and identifies aspects of emotional disturbance to assess the degree of severity of the core symptoms of depression, anxiety or stress (Lovibond & Lovibond, 1995). Because it is designed to be used with both clinical and nonclinical populations, it is a useful assessment tool for assessing coaching outcomes. The DASS has been used in exploring absenteeism from work due to mental health problems (Nieuwenhuijsen, de Boer, Verbeek, Blonk, & van Dijk, 2003).

**Workplace well-being.** Workplace well-being will be measured with the Workplace Well-Being Index (WWBI). The 16-item WWBI assesses the degree of well-being and satisfaction that individuals gain from their work using 0 (very dissatisfied) and 10 (very satisfied) on a 10-point scale.

**Leadership styles.** The Leadership Styles Index (LSI) measures 12 specific "styles" of thinking and behavioral styles, combining these into three key clusters: the constructive cluster, the passive/defensive cluster, and the aggressive/defensive cluster. The relationships between the LSI and a wide range of health and work-related factors point to the value of the LSI as a useful management development tool (Skenes & Honig, 2004).

These measures were selected as the most widely used instruments to assess the traits and characteristics for which they were intended, and for having the validity and reliability as

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assessment measure to provide confidence in the results of the research study. Table 2 synthesizes findings from an assessment of the research study instruments.

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Table 2

*Leadership Measures*

<b>Instrument</b>	<b>Author(s)</b>	<b>Approach</b>	<b>Time Required</b>	<b>Content Validity</b>	<b>Reliability<sup>1</sup></b>
Multifactor Leadership Questionnaire	Bass & Avilio (1997)	<ul style="list-style-type: none"> <li>• 45 item assessment</li> <li>• 5-point scale</li> </ul>	15-20 minutes	Content validity is based on empirical validation using confirmatory factor analysis	Cronbach's alpha: .86-.87
Goal attainment scaling	Kiresuk (1994)	<ul style="list-style-type: none"> <li>• 2-question assessment</li> <li>• 4-point scale</li> </ul>	10-15 minutes	Content validity is based on examination of the research literature conceptual framework	Cronbach's alpha: .89
Cognitive Hardiness Scale	Nowack (1990)	<ul style="list-style-type: none"> <li>• 18-item assessment</li> <li>• 5-point scale</li> </ul>	20 minutes	Content validity is based on empirical validation using confirmatory factor analysis	Cronbach's alpha: .82
Depression Anxiety and Stress Scale (DASS)	Lovibond & Lovibond (1995)	<ul style="list-style-type: none"> <li>• 42-item assessment</li> <li>• 4-point scale</li> </ul>	5-10 minutes	Content validity is substantiated through the development of a conceptual framework and extensive review by clinicians	Cronbach's alpha: .89-.93
Workplace Well-Being Index	Page (2005)	<ul style="list-style-type: none"> <li>• 16-item assessment</li> <li>• 10-point scale</li> </ul>	20 minutes	Content validity is based on review of literature	Cronbach's alpha: .93
Leadership Styles Index	Lafferty (1989)	<ul style="list-style-type: none"> <li>• 240-item assessment</li> <li>• 3-point scale</li> </ul>	20-30 minutes	Content validity is based on empirical validation using confirmatory factor analysis	Cronbach's alpha: .80-.88

Note 1. Chronbach's alpha is a coefficient of internal consistency, commonly used as an estimate of the reliability of a psychometric test for a sample of research participants.

In addition to the leadership measures, it is equally important to determine how well the leadership changes impact the changes to the school environment and student learning (Table 3).

Table 3.

*Measures of School Improvement (Shapiro, 2009)*

<b>I. School Environment</b>
<p>School Culture</p> <ul style="list-style-type: none"> <li>• Student attendance rates</li> <li>• Rates of serious misconduct and violence</li> <li>• Assessments of follow-through on implementation plans by school administration and staff</li> <li>• Infrastructure improvement (such as dollars invested and response time to maintenance problems)</li> </ul>
<p>School Connectivity</p> <ul style="list-style-type: none"> <li>• Parent engagement and satisfaction metrics (such as participation in meetings)</li> <li>• Partnerships (such as funding raised from philanthropy and community satisfaction survey metrics)</li> </ul>
<p>Teacher and School Leader Engagement and Effectiveness</p> <ul style="list-style-type: none"> <li>• Teacher attendance and retention rates of effective staff</li> <li>• Rates of participation in collaborative decision making and planning time</li> <li>• Desire for and implementation of targeted professional development</li> <li>• Focus on student learning based on content and time on task</li> <li>• Value-added academic measures based on interim assessments of student progress</li> <li>• Use of data to improve the quality of teaching</li> <li>• Amount of principal’s time spent on improving teaching and learning</li> </ul>
<b>II. Student Performance</b>
<p>Measures of Student Progress</p> <ul style="list-style-type: none"> <li>• Rates of earning credits and grade-level advancement</li> <li>• Absenteeism and dropout rates</li> </ul>
<p>Outcomes for Students</p> <ul style="list-style-type: none"> <li>• Rates of students performing at grade level by subject area</li> <li>• Rates of proficiency on state assessments</li> <li>• Graduation and college-going rates</li> </ul>

**2.4 Data Analysis:**

The results of the assessments will be analyzed using the following (Table 4):

**Analysis of Variance (ANOVA).** The ANOVA is used to determine significance.

**Shapiro-Wilks Test.** The Shapiro-Wilks test is designed to detect all departures from normality.

**Paired *t*-Test.** The paired *t*-test is used to determine if two sets of data are significantly different from each other.

**Regression Analysis.** A regression analysis is used to estimate relationships among variables, especially the relationships between a dependent variable and one or more independent variables

Table 4

*Research Questions Measures and Analyses*

<b>Research Question</b>	<b>Measures</b>	<b>Analyses</b>
1. What impact does executive coaching have on improving the self-leadership abilities of school principals?	Goal Attainment Scaling (personal goal)	ANOVA
	Cognitive Hardiness Scale	ANOVA
	Depression, Anxiety and Stress Scale	Shapiro-Wilk test
2. What impact does executive coaching have on improving leadership capability of school principals to lead others?	Goal Attainment Scaling (work-related goal)	ANOVA
	Workplace Well-Being Index	ANOVA
	Leadership Styles Inventory	Paired <i>t</i> tests
3a. How is school performance impacted by the application of executive coaching methodologies to school principals? (School Environment)	Rates of misconduct	Paired <i>t</i> -test; ANOVA; regression analysis
	Follow-through on plans	Paired <i>t</i> -test; ANOVA; regression analysis
	Infrastructure improvement	Paired <i>t</i> -test; ANOVA; regression analysis
	Parent engagement and satisfaction metrics	Paired <i>t</i> -test; ANOVA; regression analysis
	Partnerships	Paired <i>t</i> -test; ANOVA; regression analysis
	Teacher attendance	Paired <i>t</i> -test; ANOVA; regression analysis
	Retention rates of effective staff	Paired <i>t</i> -test; ANOVA; regression analysis
	Rates of participation in collaborative decision making	Paired <i>t</i> -test; ANOVA; regression analysis



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	and planning time	
	Desire for and implementation of targeted professional development	Paired <i>t</i> -test; ANOVA; regression analysis
	Focus on student learning based on content and time on task	Paired <i>t</i> -test; ANOVA; regression analysis
	Value-added academic measures based on interim assessments of student progress	Paired <i>t</i> -test; ANOVA; regression analysis
	Use of data to improve the quality of teaching	Paired <i>t</i> -test; ANOVA; regression analysis
	Principal time spent on improving teaching and learning	Paired <i>t</i> -test; ANOVA; regression analysis
3b. How is school performance impacted by the application of executive coaching methodologies to school principals? (Student Performance)	Rates of earning credits	Paired <i>t</i> -test; ANOVA; regression analysis
	Grade-level advancement	Paired <i>t</i> -test; ANOVA; regression analysis
	Absenteeism	Paired <i>t</i> -test; ANOVA; regression analysis
	Dropout rates	Paired <i>t</i> -test; ANOVA; regression analysis
	Rates of students performing at grade level by subject area	Paired <i>t</i> -test; ANOVA; regression analysis
	Rates of proficiency on state assessments	Paired <i>t</i> -test; ANOVA; regression analysis
	Graduation rates	Paired <i>t</i> -test; ANOVA; regression analysis
	College-going rates	Paired <i>t</i> -test; ANOVA; regression analysis

The advantages of the proposed study are that it will address a critical area of leadership development, namely, the recruitment, selection, and development of school leaders; it relies on a regional consortium for support, consistent with state and national standards; the school districts involved represent urban, semi-urban and suburban locations; it promotes needed formative research on the efficacy of advances in recruitment and induction procedures; and it sets up quality true experimental (random selection) and longitudinal research on the impact of these procedures. The study results therefore, are solidly positioned to predict the efficacy of the project for replication in school district locations across the U.S.

**2.5 Dissemination Plan:**

Once results have been analyzed, evaluation findings will be dispersed among clients and stakeholders, including participants and community members, so that the evidence can be used to facilitate change. Methods of dissemination will be tailored as appropriate for different audiences as illustrated in Table 5.

Table 5

*Methods and Intended Impact of Dissemination*

<b>Intended Impacts</b>	<b>Dissemination Approaches</b>
Changing policy	<ul style="list-style-type: none"> <li>• Influential individuals will be lobbied through conferences, seminars or meetings.</li> <li>• Policy champion(s) will be invited to join the research steering group in order to help access networks of specialists, or provide contact details of key people involved in this area of policy.</li> <li>• Press releases will be drafted and published for access by policy-makers. These press releases will be coordinated with the George Mason University external communications department.</li> <li>• Targeted mailings containing relevant findings and recommendations will be distributed to the appropriate policy-makers.</li> </ul>
Changing practice	<ul style="list-style-type: none"> <li>• A “good practice guide” based on findings from the research will be posted on websites, or sent out through mailings or existing networks.</li> <li>• Seminars and training events for practitioners may be conducted in order to communicate research findings.</li> <li>• Focused newsletters, websites and direct mailings can help to influence practice.</li> </ul>
Contributing to an evidence base	<ul style="list-style-type: none"> <li>• Research results will be published in peer-reviewed journals and conference abstracts in order to help to influence the evidence base.</li> <li>• Articles will be prepared for publication in specialist press or newspapers to help to raise the profile of your research amongst specialists.</li> <li>• Presentations or stands at conferences and events will help get research to contribute to the evidence base.</li> </ul>
Informing stakeholders of progress	<ul style="list-style-type: none"> <li>• Regular newsletters detailing research progress will be distributed to stakeholders to help maintain interest. The newsletter will sent to stakeholders via email and posted to a website page.</li> <li>• Conferences or events can provide an opportunity to update stakeholders with progress. You can also use conferences or events to get feedback about your research and discuss findings.</li> <li>• Meetings with key stakeholders are a useful way of keeping them informed and engaged with the research.</li> </ul>

**2.6 Timeline:**

The timeline for this study is provided in Table 6. Phase 5 activity is focused on student learning outcomes; however, baseline data that will be used for comparison will be collected and analyzed at the beginning of the study and is designated as (5) in Table 6.

Table 6

*Research Study Timeline*

<b>Year 1 (2015-2016)</b>		
<b>Phase</b>	<b>Timeframe</b>	<b>Activity</b>
<b>(5)</b>	July 2015	- Collect annual data on school performance measures and prepare for analysis.
	August 2015	- Set up SPSS programs to conduct baseline analysis on school performance measures
	September 2015	- Conduct baseline analysis on school performance measures
<b>1</b>	September 2015	- Coordinate/schedule initial briefings to principals - Contact coaches
	October 2015	- Conduct initial briefing to participants and coaches - Conduct assessments - Evaluate/brief assessment results - Assign coaches
<b>2</b>	November 2015-April 2016	- Coaches conduct telephonic coaching sessions (biweekly sessions over a 6 month period)
<b>3</b>	May –June 2016	- Conduct assessments - Evaluate/brief assessment results
<b>Year 2 (2016-2017)</b>		
<b>Phase</b>	<b>Timeframe</b>	<b>Activity</b>
<b>(5)</b>	July 2016	- Collect annual data on school performance measures and prepare for analysis.
	August 2016	- Set up SPSS programs to conduct baseline analysis on school performance measures
	September 2016	- Conduct baseline analysis on school performance measures
<b>4</b>	February-March 2017	- Conduct 10-month assessments - Evaluate/brief assessment results

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<b>Year 3 (2017-2018)</b>		
<b>Phase</b>	<b>Timeframe</b>	<b>Activity</b>
<b>5</b>	July 2017	- Collect annual data on school performance measures and prepare for analysis
	August 2017	- Set up SPSS programs to conduct analysis on school performance measures
	September 2017	- Conduct analysis on school performance measures
	October-December 2017	- Prepare and present findings to study participants and the D.C. State Board of Education
<b>Year 4 (2018-2019)</b>		
<b>Phase</b>	<b>Timeframe</b>	<b>Activity</b>
<b>5</b>	July 2018	- Collect annual data on school performance measures and prepare for analysis
	August 2018	- Set up SPSS programs to conduct analysis on school performance measures
	September 2018	- Conduct analysis on school performance measures
	October-December 2018	- Prepare and present findings to study participants and the D.C. State Board of Education
	January-June 2019	- Prepare final results of research study and forward for publication

### **3.0 PERSONNEL**

XXXX is the Principal Investigator (PI) for this study. His primary research interests are in leadership and the role of coaching in personal and professional development of school administrators, faculty, staff, and student. XXXX has over 30 years of defense and corporate leadership and management experience, is a certified professional coach, and has served as an executive coach for Fortune 500 companies. As PI for this project, XXXX will coordinate the following activities:

- Coordination and recruitment of study participants
- Recruitment of coaches
- Developing and administering timelines
- Logistics of leadership questionnaires
- Acquiring Informed Consent Forms
- Budget expenditures
- Preparation of treatment and control group responsibilities
- Interviews with teachers
- Analysis of study data

## **4.0 RESOURCES**

### **4.1 Institutional Capacity and Experience**

### **4.2 Access to Resources**

### **4.3 Plan for Acquiring Resources**

### **4.4 Access to Schools**

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## **Executive Coaching for Principal Development**

### **BUDGET JUSTIFICATION**

This budget justification is for George Mason University's proposed research into Executive Coaching for Principal Development. The grand total request of support for the project is \$1,258,140.37. We propose to develop a coaching intervention targeting leadership development in school principals. The impact of this project and the potential for improvement of student learning outcomes throughout the United States necessitates the funds requested.

### **PERSONNEL**

The budget associated with personnel includes salaries for Principal Investigator, XXXX, 10 Executive Coaches, and 2 Graduate Research Assistants.

As Principal Investigator, XXXX will devote 2 months to this project during the nine-month academic year (\$17,166.67 in Year 1, \$17,681.67 in Year 2, \$18,212.12 in Year 3, and \$18,758.48 in Year 4). This means that over the course of the four-year research study, XXXX will devote 10 months to this project. He will divide his responsibilities between administration and research. His administrative responsibilities will include duties such as managing the budget and expenditures, hiring and supervising wage earners and graduate research assistants, writing periodic explanations of the annual reports to teachers and administrators, and supervising doctoral and master's students who choose to work on the project. His research responsibilities will primarily include leading the administration of the assessments, monitoring the activity of the coaches, and compiling and analyzing the data received from the coaching sessions. He will organize and supervise assessment administration, data collection, and data entry. He will also plan and execute statistical analyses and ensure dissemination of results.

An allocation of \$45,570.08 (\$8,583.33 in Year 1, \$8,840.83 in Year 2, and \$9,106.06 in Year 3, and \$9,379.24 in Year 4) for XXXX for the summer months will enable him to oversee data analysis, revisions to the assessments, and prepare manuscripts for professional journals. These responsibilities will receive 5 months during the summer months for the duration of this project.

Two Graduate Research Assistants will be hired at \$18,540 each in Year 1 (\$37,080), with a 3% increase in the out years (\$38,192.40 in Year 2, \$39,338.17 in Year 3, and \$40,518.32 in Year 4) to assist with assessments and statistical analysis over the course of the academic year (\$25 per hour x 20 hours per week). Data entry will also be part of their responsibilities. In addition, they will be involved in other aspects of the research process, including conducting literature reviews, preparing papers and posters for presentation, presenting at conferences, and assisting with manuscript preparation.

**FRINGE BENEFITS**

Fringe benefits for full-time faculty and staff are mandated by the Commonwealth of Virginia personnel policies at the following rates:

Faculty (Instructional, Research, and Administrative)	34.18%
Classified/Staff	42.67%
Adjuncts, Summer Faculty, and Wage	7.54%
Student Wage	5.49%

The fringe benefits noted in the budget comply with these mandates and are calculated at the rate of \$17,602.70 in Year 1, \$18,130.78 in Year 2, \$7,044.82 in Year 3, and \$7,256.16 in Year 4.

**CONSULTANTS**

10 executive coaches will be hired at the rate of \$48,000 each in Year 1 (\$480,000) with no additional requirement during the out years. This total is calculated based on \$200.00 per hour times 24 hours per coach for each of 10 principals.

**TRAVEL**

Dissemination of the findings is an important part of the research process. Therefore, funding for travel is included in the budget. Travel funds are included to cover attendance at conferences where XXXX will share his research with different audiences. In addition, each graduate research assistant will be expected to be present at and assist with a minimum of one research presentation each year. This is important because involvement in professional conferences will further the assistants’ knowledge and understanding of research and will enable them to contribute to the dissemination of findings. Presentations will be given at the annual meetings of education associations, as reflected in Table 7.

Table 7

*Projected Travel Plans and Budget*

American Educational Research Association (Chicago, IL) - 4 days			
(2 attendees)	Year 2	Year 3	Year 4
Flight (465)	930.00	1,004.40	1,084.75
Lodging (194)	1,552.00	1,676.16	1,810.25
Meals (71)	568.00	613.44	662.52
Total	3,050.00	3,294.00	3,557.52
International Coaching Professional Association (Boston, MA) - 4 days			
(2 attendees)	Year 2	Year 3	Year 4
Flight (390)	780.00	842.40	909.79
Lodging (258)	2,064.00	2,229.12	2,407.45
Meals (71)	568.00	613.44	662.52
Total	3,412.00	3,684.96	3,979.76

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International Coach Federation (Kansas City, MO) - 4 days			
(2 attendees)	Year 2	Year 3	Year 4
Flight (451)	902.00	974.16	1,052.09
Lodging (106)	848.00	915.84	989.11
Meals (61)	488.00	527.04	569.20
Total	2,238.00	2,417.04	2,610.40
Neuroleadership Summit (San Francisco, CA) - 4 days			
(2 attendees)	Year 2	Year 3	Year 4
Flight (719)	1,438.00	1,553.04	1,677.28
Lodging (219)	1,752.00	1,892.16	2,043.53
Meals (71)	568.00	613.44	662.52
Total	3,758.00	4,058.64	4,383.33
Graduate School Alliance for Executive Coaching (San Francisco, CA) - 4 days			
(2 attendees)	Year 2	Year 3	Year 4
Flight (719)	1,438.00	1,553.04	1,677.28
Lodging (219)	1,752.00	1,892.16	2,043.53
Meals (71)	568.00	613.44	662.52
Total	3,758.00	4,058.64	4,383.33
Grand Total	16,216.00	17,513.28	18,914.34

**Other Costs**

**SUPPLIES**

Cost of assessments and assessment manuals is \$2000 in Year 1 and \$1000 in Year 2.

**TUITION**

Tuition for the two graduate research assistants has been added at the rate of \$6,640.42 in Year 1, \$6,839.62 in Year 2, \$7,044.82 in Year 3, and \$7,256.16 in Year 4. This will provide each graduate research assistant with a 6-credit tuition waiver each year of the grant. This is consistent with the College of Education and Human Development policies for hiring graduate research assistants.

**PAYMENTS TO SUBJECTS**

Incentive payments of \$334,800.00 have been added at the rate of \$124.00 per hour for study participants. This is at rate of \$124.00 per hour, two times the average pay of principals in the Washington D.C. school system.