

The mind of the artist/the mind of the leader: what neuroscience can teach us about the training of arts managers and leaders

David Edelman
Shenandoah University, Winchester, VA, USA
dedelman@su.edu

Jennifer Green
Shenandoah University, Winchester, VA, USA
jgreen@su.edu

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ABSTRACT

This research paper will triangulate neuroscience with performing artist cognitive traits and the training of arts leaders. The authors will examine current research in the burgeoning field of neuro-cognition and its pedagogical implications for teaching future arts leaders who come to the study from a performing arts background. The paper will present several discoveries on how the mind works and how this research helps us understand the parallels between the habits of mind utilized by performing artists and the training of the arts leader. Leadership training for future arts leaders is a critical component of their education, but we often rely on pedagogical tools created for the business world or generic nonprofit education modified to suit the realities of arts organizations. This presentation will illustrate a new pedagogical model that draws from research into how the brain works, our understanding of the mind and practice of the performing artist. Using new research on the practice of thinking and learning to inform leadership models in arts management and applying the habits of the artistic mind to the training of arts leaders points to a broadening of our pedagogical toolbox and may indeed be a new way forward in the field.

Keywords:

Arts management training
Arts leadership
Neuro-cognition
Creative brain

Introduction

The contemporary literature of leadership is rife with works by successful entrepreneurs, corporate CEOs, business tycoons, product inventors and self-help gurus, sharing their personal stories of perseverance and suggesting that you too can be a success by following the author's example and principles. These works are anecdotal in nature and while often inspiring, provide little in the way of scientific proof, evidence, data, or testing. They are popular literature that is unfortunately too often read as not only fact, but replicable fact. Those who teach leadership within the academic community should view them as case studies, at best. The authors of this paper look to the seminal research of psychologist Daniel Goleman, who first published his groundbreaking book *Emotional Intelligence* in 1995, and in 1998 his classic article in *Harvard Business Review*, "What Makes a Leader?". It remains the most requested article in *HBR*'s history. In this paper, we will review Goleman's theories as they apply to leadership in the workplace, examine how emotional intelligence is perhaps the critical factor in the training of performing artists (dance, music and acting), examine some of the latest research in how the brain¹ works, and finally connect the dots between the theory, current research, and implications for the future training of artists as leaders.

The theory of emotional intelligence and the training of leaders

Goleman's pioneering research in the 1990s with over 200 large companies across the globe provided him with abundant evidence that emotional intelligence is primary to the success of the leader and that education, practical skill, and experience are secondary (Goleman, 1995). His research led him to conclude that there are domains of emotional intelligence and related personal competencies that the best leaders exhibit and that can be learned by aspiring leaders (Goleman, Boyatzis & McKee, 2002).

The first of these domains is personal competence, the capabilities that determine how we manage ourselves. Personal competence includes:

Self-awareness

- Emotional self-awareness: reading one's own emotions and recognizing their impact; using gut sense to guide decisions (intuition).
- Accurate self-assessment: knowing one's strengths and limits.

- Self-confidence: a sound sense of one's self-worth and capabilities.

Self-management

- Emotional self-control: keeping disruptive emotions and impulses under control.
- Transparency: displaying honesty and integrity; trustworthiness.
- Adaptability: flexibility in adapting to changing situations or overcoming obstacles.
- Achievement: the drive to improve performance to meet inner standards of excellence.
- Initiative: readiness to act and seize opportunities.
- Optimism: seeing the upside in events.

The second domain is social competence, the capabilities that determine how we manage relationships. Social competence includes:

Social awareness

- Empathy: sensing others' emotions, understanding their perspective, and taking active interest in their concerns.
- Organizational awareness: reading the currents, decision networks, and politics at the organizational level.
- Service: recognizing and meeting follower, client, or customer needs.

Relationship management

- Inspirational leadership: guiding and motivating with a compelling vision.
- Influence: wielding a range of tactics for persuasion.
- Developing others: bolstering others' abilities through feedback and guidance.
- Change catalyst: initiating, managing, and leading in a new direction.
- Conflict management: resolving disagreements.
- Building bonds: cultivating and maintaining a web of relationships.
- Teamwork and collaboration: cooperation and team building².

Within these domains reside threads of human behavior that bind these competencies together. Goleman and George (George, 2000) contend that our emotional life is dependent on our connection with others. There is an open loop of communication between people that informs our emotional life. The stronger this connection, the more likely that people will mirror each other's emotions and physiology. We

¹ Researchers use the terms brain and mind, often interchangeably. The authors of this article use brain when referring to the physical organ and mind when referring to the feeling, thinking, and reasoning elements of consciousness. However, when quoting others, we defer to the usage of those authors.

² These domains of emotional intelligence and related competencies are described by Goleman et al (2002).

“THE CONTEMPORARY TRAINING OF DANCERS, MUSICIANS AND ACTORS RELIES ON A SHARED SYSTEM OF PHYSICAL DEVELOPMENT, SKILL ACQUISITION AND, EQUALLY IMPORTANT, THE CAREFUL DEVELOPMENT OF THE ARTIST’S EMOTIONAL INTELLIGENCE”

feel the other’s pain, joy, sadness, loss, and not only metaphorically, but as a function of the part of the brain known as the mirror neuron system. The strong emotions we sense in others can stimulate the very same physical manifestations, such as tightening in the throat, tears, or a smile. Significant research has been undertaken over the past 20 years to understand the workings of this system, particularly with individuals who manifest disorder on the autism spectrum and with those who suffer from social-emotional agnosia and individuals who fail to recognize emotions, the inability to recognize facial expression in another person (Rubin et al, 2005).

There is also a contagious element to our emotions. One need only recognize how quickly laughter manifests and spreads in an audience watching a comedic performance. We can also look to the performance – the relationship between the performer and the audience – to see how the expression of one’s emotions can draw in other people. We can become captivated by expressions of pain, joy, sadness and loss. So too, our moods have a distinct effect on other people. A leader with a bad mood can significantly alter the dynamics of a meeting, impairing the communication between attendees and ultimately lowering productivity. Perhaps the most damaging behavior is allowing our emotions to hijack our reasoning. Crimes of passion, road rage, and lately Brexit and Trumpism are examples of emotional hijacking and its effects on the behavior of individuals caught in the moment.

Training of performing artists

The authors of this paper posit that the contemporary training of dancers, musicians and actors relies on a shared system of physical development, skill acquisition and, equally important, the careful development of the artist’s emotional intelligence. The latter is of particular interest to this article and the authors’ attempt to link the training of arts leaders and the training of performing artists. The authors contend that the artists physical training and skill acquisition must be accompanied by the development of focus, flow, intuition, and mastery in order to develop the whole artist. Furthermore, artists must be keenly aware of how empathy, inspiration, influence, change and collaboration affect not only social awareness but the ability

of the artist to manage relationships with others. The authors believe that these elements directly relate to the competencies proposed by Goleman (in Goleman, Boyatzis & McKee, 2002). Therefore, the personal competency and social competency described by Goleman et al will serve as the organizing framework for this discussion.

Personal competence: self-awareness and self-management

Focus

The ability to simultaneously concentrate rational thinking, emotional life, physical presence and skill is an essential activity for the performing artist. Dancers and musicians may spend much of their young lives, beginning at the age of 3 or 4, in the studio or at home with lessons, learning to focus their minds on the mastery of their art. It is only through focused practice that a high level of creative competence can emerge. Research with patients of traumatic brain injury has found that the ability to suspend traditional beliefs or paradigms (when wrestling with a problem) and to practice thinking patterns outside of the individual’s norm are key to creative solutions (Heilman, 2016).

Flow

Performers (and athletes) understand what it means to be in flow, sometimes known as “in the zone”. It is a heightened state of presence in the here and now, of highly energized focus, of both awareness and freedom, and powerful emotion – often a deeply felt satisfaction and joy. While it can be found in rehearsal, it is truly the hallmark of performance, when the artist must abandon the kind of focus required for preparation and immerse in a complex dynamic that is, for the audience, a mystery.

Intuition

Researcher Dietrich found (through a survey of literature and experiments on the frontal lobe) that total absorption in a task causes the individual to “forget oneself” through the suspension of self-awareness and become fully absorbed in the task (Dietrich, 2004).

This transition from the awareness of self to the liberation of unconscious mind allowed for suppression of the analytical brain functions and gave reign to the intuitive functions. This is a key element of the creative process, allowing the use of intuition to link sensory input and problem-solving in unique ways. Artists engaged in improvisation utilize intuition to a high degree, yet such intuition is reliant on a highly developed level of skill and competence that the artist has acquired through study and practice.

Mastery

This is perhaps what most people (including young students) think of as the way that a performer is trained – the acquisition of skill, the mastery of technique, the development of talent, and the capacity to make interesting creative choices based on an ever-growing personal experience with the art form. Heilman and his team, reviewing literature on traumatic brain injury (TBI) patient brain activity concluded that skill mastery and the challenges posed by skill mastery created a “creative ready brain” (Heilman et al, 2003) . Competence, in and of itself, is insufficient and must be integrated into a holistic process of training the performer that assimilates intuition, empathy, flow and focus – thus, creating the whole artist.

Social competence: social awareness and relationship management

Empathy

Performers working together, in an ensemble, and in both rehearsal and performance, must exercise their empathetic emotional skills to a high degree. Cognitive empathy, the ability to recognize the emotion felt by another person, is not only a sensory process involving listening, seeing and, particularly for dancers and actors, often touching. It is also a function of the previously mentioned mirror neuron system, which allows us to similarly feel what another person is experiencing. But empathy for the performer must go beyond recognition and include what is known as affective empathy, the ability to respond appropriately once the emotion of the other is recognized. This forms the basis of method acting training, which emphasizes that the actor generates a realistic affective response (perspective taking) to the emotional behavior of the acting partner.

Inspiration and Influence

The stage director, choreographer and music director all have a primary task in the creative process: to create an artistic vision and to inspire performers to that vision through the rehearsal and performance of

the art. Stage director and author Anne Bogart states it well when she says that “we create journeys for others to be received in the spirit of a gift” (Bogart, 2001). In this quote, Bogart refers to the elusive concept of inspiration. Bogart believes inspiration to be a gift that inspires connection, and perhaps even reciprocity between the giver and receiver. The act of inspiration, in leadership, shifts the focus from the leader to the other and the giving of a gift implies generosity toward the recipient, the creation of a bond between the giver and the recipient, and engendering good will with the recipient (Latham, 2014). It is an unselfish act which, in the leadership context, shifts the focus from the leader to the other and in so doing facilitates the accomplishment of the primary task.

Catalyzing change

Change is an ever-present factor in art. It inspires artists to create original work and to interpret or re-interpret the works created by others. The desire to create change is at the center of the creative impulse which in turn has the potential to create change in the world. In his essay on *The Field of Cultural Production*, Pierre Bourdieu (1993), the seminal cultural theorist of the late 20th century, argues that both the agent of cultural production (the artist) and the perceiver (the audience) are invariably influenced by the social reality in which art is created, presented, and perceived. For the artist, Bourdieu defines this as “habitus” or “a feel for the game”. The artist, influenced by current reality as well as past life experience, transforms artistic output, consciously or unconsciously, to suit the form and pressure of the times. In other words, the transformative experience is what artists seek and, coincidentally, what audiences yearn for (Bourdieu, 1993). The artist, therefore, by very nature is a catalyzer of change.

Collaboration

Collaboration within the performing arts is both second nature and a practiced skill. Children learn it at an early age when the notion of “playing well with others” is first reinforced in their consciousness and behavior. Artists carry this throughout their entire lives, honing their collaborative skills through improvisation, ensemble work, and their relationships with those who make their work possible – technicians, designers, stage crews, publicists, payroll managers, and on and on. As dancer and choreographer Twyla Tharp states, “Collaborators aren’t born, they’re made. Or, to be more precise, built, a day at a time, through practice, through attention, through discipline, through passion and commitment – and most of all, through habit” (Tharp, 2009).

In summary, Goleman (1995) and Goleman, Boyatzis and McKee’s (2002) work allow us to examine leader-

ship traits through the framework of two competencies: personal competence and social competence. These two areas of competence, according to Goleman, orient the leader to a relationship with the self and with the external world. The internal and often reflective concepts of focus, flow, intuition, and mastery support the personal competence of the artistic leader. The concept of empathy orients the artistic leader to social awareness while inspiration, catalyzing change and developing collaboration provide the needed focus on managing relationships with others. These competencies form the bridge to what we now know as emotional intelligence (Rubin et al, 2005; Latham, 2014). Goleman's domains of personal competence and social competence, when connected to the artist's unique emotional intelligence, provide the infrastructure for the development of the unique capabilities of the artist-leader.

Recent research that expands our understanding of emotional intelligence

The burgeoning field of neuroscience has been expanding at an ever-increasing rate over the past 25 years as new research tools have been applied that safely reveal the workings of the brain's interior. Using such tools as optogenetics, functional magnetic resonance imaging, electroencephalography, and positron emission tomography researches have been able to study how the brain works in greater detail, with more accuracy, and often in clinical settings that approximate the way in which research subjects actually function in the world. Now, equally as exciting is the scope of research that uses less technical and perhaps more prosaic investigatory methods of observation and behavioral measurement with no less striking conclusions. These tools now allow our understanding of the brain to further build upon Goleman's competencies and the concepts of focus, flow, intuition, mastery, empathy, inspiration, change and collaboration. The results of recent research have both confirmed what has been commonly accepted and illuminated new and sometimes surprising understanding of cog-

niton, emotional intelligence, perception and creativity. We shall look at just a very small sample of this research as it pertains to emotionally resonant leadership and how the creative brain functions.

Traditional theory of mind (ToM) says that we understand or predict the behavior or beliefs of others (mentalizing) and then respond accordingly. For example, I make assumptions about the beliefs of someone who supports Donald Trump or Brexit and then determine that this is someone I do not want to engage with and would rather ignore. My behavior is determined by how I understand the mindset of the other person. ToM includes cognitive empathy, putting

yourself in someone else's shoes to understand him. New research suggests that affective (emotional) empathy is a precursor to cognitive empathy – we need to feel the other person before we can empathize (Divash & Shamay-Tsoory, 2014). This two-step process is an essential tool for stage actors who in both training and performance observe the behavior of their acting partner and respond to it.

Researchers looking at TBI and frontal lobe studies concluded that being "in flow" suspends the rational, analytical brain and allows the individual greater ability to connect with their environment and individuals within that environment while engaged in problem-solving; thus, evolving the emotions and identifying/understanding with the emotions of others (Heilman et al, 2003).

Near wins and motivation

Researchers from INSEAD Business School found that near wins are more motivating than actual wins, which seems counterintuitive. They created various near win experiences and found that subjects ran faster to get to a chocolate bar and salivated more for money. In consumer research, it was found that near wins motivate shoppers to spend more on consumer goods (Wadhwa & Kim, 2015).

Combinatory play and neuroaesthetics

Clinical psychologist Victoria Stevens looks at the recent subfield of neuroaesthetics, which examines the neurological basis for the creative process and recent research. She looks at combinatory play: conscious

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2 Creative Saskatchewan works closely with the six creative industry associations: SaskGalleries, SaskMusic, Saskatchewan Crafts Council, Saskatchewan Motion Picture Industry Association (SMPIA), Saskatchewan Interactive Media Association and SaskBooks.

and unconscious interplay of ideas, senses, thoughts, etc. that are a hallmark of creative process, and the imagination (Stevens, 2014). Method actors are expert at combinatory play, wherein the technique teaches the performer to emulate realistic behavior under imaginary circumstances. Johns Hopkins researchers mapped jazz musician's brains during improvisation and found that their musicianship affected the neural network of the brain, resulting in greater interplay of brain functionality. Improvisers demonstrate a more efficient combinatory play (Pinho et al, 2014).

Researcher Dietrich examined the intersection between flow and sensory (body) input as the basis for creative happenings. These happenings combine previously mastered skills with the brain's intuitive processes, which then allowed the brain's implicit knowledge base to "play" with combinations and creative problem-solving without interference from the brain's more analytical systems (Dietrich, 2004).

Heilman and his team, reviewing literature on TBI patient brain activity, concluded that skill mastery and the challenges posed by skill mastery created a "creative ready brain" (Heilman et al, 2003).

Divergent/convergent thinking

TBI researcher Heilman theorized that the individual has to be willing to abandon preconceptions and accepted "normal" paradigms to achieve focus on a problem. He further found that being totally absorbed in a task (in flow) helped with that suspension; allowing creative applications of previous skills and knowledge. This experience of divergent/convergent thinking is part of creativity (Heilman, 2016).

Improvisation

Dietrich's work on flow and sensory input demonstrates improvisation as enabling of the brain's intrinsic system (intuition) to dominate over the explicit system (rational analytical); he terms this as "flexibility" (Dietrich, 2004).

Circuitry of the creative brain

Researchers Finger, Zaidel, Boller and Bogouslavsky (2013) in their study of patients with TBI (imaging via magnetic resonance imaging [MRI]) conclude creativity as a whole brain activity and not limited to right or left brain activity (right brain or left brain). Observing patients engaged in creative problem-solving shows the entire brain is engaged – not one particular area (Finger et al, 2013).

Brain plasticity

Dietrich's research suggests that creativity is a higher-level process and forces the "brain space" to expand (we use more of our brains when engaged in creative flow) and further reinforces the physical structure of

the brain to generate more "room/capacity" for this thinking later. Creativity begets creativity (Dietrich, 2004).

In summary, Goleman's personal and social competencies, when examined in tandem with the core concepts of focus, flow, intuition, mastery, empathy, inspiration, change and collaboration, create a new lens. This framework provides a structure for evaluating contemporary neuro-research and combining these findings with the skills that are inherent to the artist leader. Further nurturing these inherent capabilities enhances the leadership capabilities of the artist.

Mirroring artistic training and leadership training

Trained performing artists are often ill equipped to understand the cognitive and emotional underpinnings of their craft. They are, after all, practitioners and not theorists, and their job is to deliver a great performance. Unlike professor Harold Hill's *think method* in *The Music Man*, musicians do not learn their craft by thinking about how to play their instruments, they learn by playing them. Even the more academic aspects of artistry – music theory for musicians, anatomy for dancers, script analysis for actors – are a small fraction of the training and best accomplished within the context of applied music, dance and theatre.

Leadership, however, can and should be thought about. Goleman, Boyatzis and McKee (2002) state this quite clearly in *Primal Leadership*:

The crux of leadership development that works is self-directed learning: intentionally developing or strengthening an aspect of who you are or who you want to be, or both. This requires first getting a strong image of your ideal self, as well as an accurate picture of your real self – who you are now. Such self-directed learning is most effective and sustainable when you understand the process of change – and the steps to achieve it – as you go through it (Goleman, Boyatzis & McKee, 2002).

The model of this self-directed learning, according to researcher and theorist Richard Boyatzis (Goleman, Boyatzis & McKee, 2002), is a series of discoveries, illustrated in figure 1:

- Understanding and describing your real self.
- Imagining your ideal self.
- Creating a learning agenda that capitalizes on your strengths while filling gaps as you plan a path to your ideal self.
- Experiment with and practice new behaviors.
- Develop supportive relationships that will provide honest feedback and encouragement.

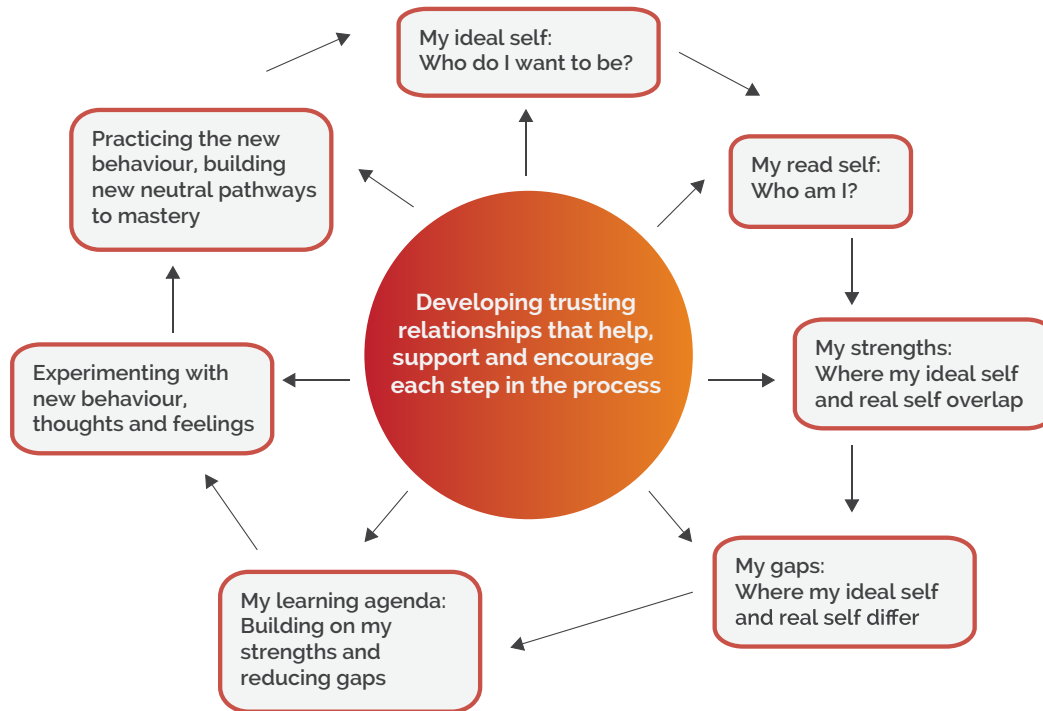


FIGURE 1. BOYATZIS' THEORY OF SELF-DIRECTED LEARNING

Source: Goleman, Boyatzis & McKee (2002).

In essence, Boyatzis' work not only combines the personal and social competences of Goleman by utilizing the core concepts of focus, flow, intuition, mastery, empathy, inspiration, change and collaboration but it also provides further framework for the incorporation of new neuro-research into the training of artist leaders. As we examine the best way to prepare and educate artist leaders, it becomes apparent that there are striking similarities between Goleman's theories of emotional intelligence, the learning model developed by Boyatzis, and the creative learning process by which performing artists develop their craft. Recent research in the field of neuroscience helps us to understand the connections.

Boyatzis' concept of moving from the real self to the ideal self is a fundamental construct for performing artists. All young performers who have the ambition to succeed in their chosen craft fantasize about the artist that they seek to become. They restlessly examine the

path to this goal, recognizing that their strengths as performers must constantly be honed and their weaknesses strengthened. This path (the learning agenda) will require years of training with trusted coaches and teachers who guide and support them, all the while experimenting with behavior, technique, emotional life and collaboration within the practice room, the rehearsal hall, and on stage.

“USING GOLEMAN AS THE BASIS, WE CAN LEAD THE ARTIST FIRST TO AN UNDERSTANDING OF THE THEORY OF EMOTIONAL INTELLIGENCE AND THEN THROUGH THE CREATION OF A SELF-DIRECTED AND PERSONAL MODEL OF LEADERSHIP LEARNING”

This artistic path is in many ways a perfect mirror to the training of the leader. Using Goleman as the basis, we can lead the artist first to an understanding of the theory of emotional intelligence and then through the creation of a self-directed and personal model of leadership learning. What makes this learning process so relatable to the artist is the already familiar turf

of focus, flow, empathy, intuition, and competence. When trained artists are asked to think about their artistry, how they have prepared, how they engage in practice, rehearsal and performance, the relationship between their cognitive brains and their emotional

brains (metacognition), we connect the familiar to a new goal – training them to be leaders. In a nutshell, they get it. And the neuroscientific research supports this claim, showing why it is that trained performers have an easy, often innate understanding of what for others can be a challenge, not to comprehend, but to accomplish.

Connecting the research to the training of artist-leaders

Using the building blocks of Goleman's competencies, the core concepts of focus, flow, intuition, mastery, empathy, inspiration, change and collaboration, new neuro-research, and Boyatzis' theory of learning, we have created a framework for training of the artist leader. This framework incorporates both the emotional intelligence of the artist and the refinement of skills as tools to further develop the leadership capabilities of the artist leader. Using this lens, artists are uniquely able to harness their artistic sensibilities and work habits and form valuable tools for leadership. Below we explore the manifestation of this framework.

Empathy is at the heart

- Artists experience and practice both cognitive and affective empathy within their training.
- As Goleman states, empathy is the essential ingredient of social awareness, one of the four competencies required of the successful leader.
- Implication: artists are pre-disposed, through training, to a higher social awareness and empathy. This is borne out by the research of Waddington (2013) and Heilman et al (2003) who both conclude that empathy is essential for optimal engagement with the other.

The leader's practice room

- Artists exhibit intense focus, problem-solving, and physical repetition and refinement over many years of training and practice: accomplished solo, in an ensemble, or both. It is only through such intensity, accompanied by a high degree of intrinsic motivation, that skill mastery is attained.
- Similarly, a self-directed learning agenda is, according to Boyatzis (Goleman, Boyatzis & McKee, 2002), a lynchpin between the leader's self-awareness and the creation of new behaviors and patterns (new neural pathways) that support attainment of the ideal self.

- Implication: artists are attuned to and exhibit a high degree of discipline for the creation of a self-directed learning agenda to develop the competencies required of successful leadership. De Manzano et al (2010) support this conclusion with their correlation between concentration and performance noting that a positive physical effect combined with high attention results in the ability of the performing artist to find a maximum state of performance quality. Furthermore, Finger et al (2013) and Lee and Therriault (2013) both conclude that this activity is a whole brain process, indicating the high degree to which the executive and emotional parts of the brain are integrated in the practice of both art and leadership.

The leader's jam

- Flow is an essential element of creativity, found in pure improvisation and in the here-and-now moment of live performance. Performing artists use both skill and knowledge together with divergent/convergent thinking to achieve this higher brain state known as flow.
- Goleman, Boyatzis and McKee (2002) describe the open loop of communication that allows people to sense the emotional life of another person and respond. The critical element of leadership is how the leader responds in situ, a kind of emotional improvisation.
- Implications: López-González and Limb (2012), and Dietrich (2004) affirm that the intuitive nature of improvisation (the dominance of intuition over rational thinking) is a form of cognitive flexibility, during which decision-making leads to new ideas and combinations. We see this in both leaders and artists – a leader's response within an open loop of communication is similar to the improvisatory response of the artist.

The ensemble and the team

- The performance of an ensemble, whether in music, dance or theatre, is perhaps the ultimate expression of the artist's collaborative work. It is the place where the practice room and rehearsal hall are abandoned and the artist must rely on a combination of learned competence and intuition to deliver a quality performance. According to de Manzano (2010), artists will also then find themselves in a state of flow, functioning in a highly aware state of suspended consciousness.
- In the leadership setting, working with teams is perhaps the most complex yet productive aspect of the job. It too requires a high degree of collaboration, trust, and building of bonds (Goleman, Boyatzis & McKee, 2002). At the same time, the leader's intuitive brain informs the executive brain allowing for new combina-

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tions of ideas, strategies and decision-making (López-González & Limb, 2012).

- Implications: we must help artists to recognize the validity of their leadership skills learned through performance. The very same skills that are valued in performance (competence, intuition, and flow) are transferable and directly applicable to the work of a leader with a team.

The risks and rewards

- Artists experience performance and practice as near wins and misses. The goal is never achieved, even at the conclusion of the performance, because there is no perfection. The constant refinement required by a demanding aesthetic increases the artists' motivation to succeed but not to win.

- Leaders experience this same need for refinement. Chase and Clarke (2010) postulate that near wins and misses create new brain circuitry which continually inspires further engagement – much like that experienced by the artist. It is the pursuit of the chocolate bar, not its attainment, that motivates leaders to succeed.

- Implications: both artists and leaders continually, in fact almost obsessively, refine their craft. Each failure to obtain perfection increases motivation and the pursuit of the ideal self. That pursuit, according to Boyatzis, is the fuel of self-directed learning that is required of all leaders (Goleman, Boyatzis & McKee, 2002).

Conclusion – the Aha! moment

Our task as educators of future arts leaders is to recognize the degree to which performing artists already understand the intricacies of leadership. The pursuit and engagement of the artistic process predisposes these individuals to intuitive understanding of the practices, theories, and concepts of leadership that are described within this paper. The framework represented by Goleman and Boyatzis provide the basis for the understanding of leadership training. And it is an easier climb for artists, given their training, honed intuition, collaborative experiences, and pursuit of their ideal selves.

This predisposition of artists as leaders suggests that in order to prepare young arts students for leadership roles within the professional performing arts a

new systematic approach to teaching arts leadership is required. Recognizing the unique brain circuitry and flexibility inherent in the performing artist must be embedded in a pedagogy created for emerging arts leaders. This conclusion begs several questions. How can educators best illuminate the intrinsic and essential leadership qualities that artists already possess? What classroom resources (teaching tools) can adequately inform a curriculum as suggested and do these resources currently exist? If resources exist, how must they be adapted to serve this unique pedagogical need of training the artist-leader? If these resources do not exist, is there sufficient marketplace for this kind of new teaching material? Further research is needed to investigate this particular aspect of arts leadership training, and thus give validity to the implications outlined in this paper.

The current popular literature on leadership relies heavily on personal anecdote based on the author's experiences. Scholarly writing on leadership pays little, if any, attention to the particular needs of training artists to become leaders, perhaps because it is perceived as an insignificant need. There remains a dearth of relevant material – either popular or scholarly – for the illumination of the creative brain of the artist and how this understanding can be harnessed in the training of arts leaders. Marrying the research of Goleman, Boyatzis and McKee with current research on brain and creative thinking can provide a platform for the creation of a scholarly supported and systematic training of arts leaders. This may be considered a next logical step that arises from the research and conclusions presented in this paper.

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