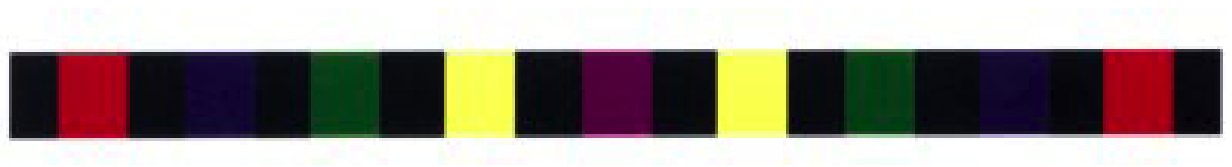# International Journal
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Preface

Self-directed learning has been characterized by some as promoting an excessive emphasis on learning to attain individual goals while ignoring learning dedicated to a broader purpose or needs for societal change. This issue presents a convergence of thought and evidence that reflects a deeper understanding of self-directed learning as a tool for both individual and societal advancement. At the 2009 International SDL Symposium, Marcie Boucouvalas renewed her 1988 call for an expanded conceptualization of self-direction in learning from solely autonomous efforts (focused on the individual) to include homonomous efforts, emphasizing the connectedness of the individual to the larger groups of which he or she is a part. Her arguments are presented in the first article in this issue.

Coincidentally, at the same Symposium, a group of researchers from FAU presented the findings of their study of a group of individuals whose work advanced their fields or society as a whole, either though scientific or technical discoveries, leadership of social change, or other major initiatives. Examination of the characteristics of these individuals revealed, as expected, high levels of self-directed learning; but they also clearly documented the homonomy called for by Boucouvalas. Throughout their lives, the majority of the innovators studied evidenced a strong desire to contribute to the well being of others and betterment of society, and their self-directed learning was integral to the achievement of their goals. Contrary to the myth of the self-directed learner as an individual focused only on his or her own benefit, many of these individuals deprived themselves of material comforts and placed themselves in danger in order to accomplish goals beneficial to the larger society.

Two other papers in this issue also reflect the homonomous self-directed learner. Rowe's article explores self-directed learning and teacher efficacy assessments of teachers involved in a nontraditional professional performance appraisal process. His findings replicate the high levels of self-directed learning readiness previously found among teachers who are active self-directed learners in support of a larger purpose: their students' growth and advancement. Zsiga, Liddell, and Muller examine the findings of studies of executives of non-profit organizations committed to service to others (again finding above average levels of SDL readiness) and offer recommendations for leadership development.

The Ponton, Schuette, and Confessore article applies the agentive perspective of SDL to children, pointing out that, although much of the research on SDL has been focused on adults, children are also capable of SDL. Their position links this article to one of the recommendations of the study of innovators: that self-direction in learning be supported and promoted in homes, schools, and organizations for both individual and social benefit.

Lucy M. Guglielmino, Editor   Huey B. Long, Editor Emeritus

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REVISITING THE CONCEPT OF *SELF* IN SELF-DIRECTED LEARNING: TOWARD A MORE ROBUST CONSTRUCT FOR RESEARCH AND PRACTICE IN A GLOBAL CONTEXT

Marcie Boucouvalas

In a twenty-year retrospective view, the author reexamines her earlier analysis of the concept *self* in self-directed learning in which the development of homonomy (larger connected Self sense) was introduced as a complement to the autonomous developmental trajectory in crafting a more robust international construct for research and practice.

While the literature of self-direction in learning has continued to advance, discussions regarding the meaning afforded to the concept of *self* have not been readily forthcoming and autonomy still seems to reign, although in a more implicit manner, as the central feature of self-direction. Of course autonomy is a central component, but it represents only a partial rendition of selfhood. Self-directed learning has even greater potential to contribute to the development of the human species when guided by a concept of *Self*[1] that includes both autonomous (separate, individual) and homonomous (connected, collective) dimensions. Given advances in the literature coupled with the state of the world, it seems timely to clarify, update, and augment the significance that a larger concept of Self may have to our investigations, applications, and meaning of Self-direction in learning and the way we think about our space and place on this planet. Consideration of such a discussion has the potential to lay a foundation for developing a more globally pertinent theory of self-direction.

Twenty years ago I authored a paper entitled "An Analysis and Critique of the Concept *Self* in Self-Directed Learning" (Boucouvalas, 1988). Given that in the past several decades much has transpired in the literature and in practice, it is timely to revisit, clarify, update, and augment my earlier writings.

To share with you the movement of my thought as a context for my current position, a bit of background is in order. I was initially introduced to the concept and practice of self-direction in learning many decades ago. My first job out of college was as a researcher with the Postgraduate Medical Institute, the educational arm of the Massachusetts Medical Society, which at that time was conducting a research project with community general hospitals in New England investigating how one might help Directors of Medical Education

become adult educators. Although I had been hired to the research staff, I expressed interest in the content of their efforts and they subsequently sent me to nearby Boston University to take a course with a gentleman named Malcolm Knowles. At that time Malcolm, as I increasingly became comfortable calling him, was field-testing the first edition of *The Modern Practice of Adult Education* (1970).

With no background or interest in education, my head was rapidly turned around as to what education could be. We not only studied the meaning of self-direction but also practiced it and for the most part embarked upon a developmental journey of becoming more self-directing learners. Self-direction at that time, at least à la Knowles, was not just an educational process to be catalyzed; it was also, for learners, a way of thinking about and *being* with learning. There were both epistemological and ontological aspects to the process. It was less about independence per se and more about taking responsibility for one's learning, thinking about and selecting both material and human resources to aid one's learning. It was about a commitment to knowing oneself as a learner. What energizes us? What environments help us flourish? What makes us wilt?

Along with any such realization was an acknowledgment that one could not always control the external environment, but could learn to adapt and adjust when needed. With a centered understanding of oneself as a learner, one could even enter an other-directed or controlled learning situation without losing one's self-directedness. This thought later appeared in Knowles' 1975 book entitled *Self-Directed Learning: A Guide for Teachers and Learners*. One could conceivably miss the idea because it only appeared in a few sentences. This academic experience, coupled with my later experience working within a correctional system, led me to publish a few articles on how self-direction was indeed relevant to other-directed environments (Boucouvalas & Pearse, 1982, 1985). It seems equally important to note, however, that from the earlier learning with Knowles, another understanding that I carried with me to other professional contexts was that learning was not exclusively for individual benefit. It was also geared to improving the working of groups, organizations, and ultimately for any needed social change in society-at-large. Maintaining one's center while also working for collective action, I learned, was integral.

By 1980 I had already begun to venture out professionally to other countries and cultures and was becoming increasingly concerned that some were beginning to see self-direction in learning as a western concept due to its perceived emphasis on individualism. At the same time I had been immersed in research on transpersonal psychology (later extending to other disciplines as well), which focuses on a larger sense of *Self*, and I believed that self-direction was a viable global concept depending upon how one conceptualized *self*. Consequently, I embarked upon an analysis of the literature on self-directed learning. Findings revealed a lack of attention in general to a discussion of the conceptualization or meaning of *self*, and an almost exclusive attention, both explicit and implicit, to autonomy. The development of an independent, separate self-sense was indeed important and often considered the hallmark of maturation, at least in western literature. Autonomy is only a partial rendition of selfhood, however. Embedded deep in a small footnote of Maslow's (1968) *Toward a Psychology of Being* is the concept of *homonomy*, coined by Hungarian

Andras Angyal (1941), referring to the meaning derived in life by being and feeling part of a greater whole. I resurrected and read his original writings and, supported by my knowledge of the literature on transpersonal adult development, women's development, and psychological androgyny, introduced and discussed the honomonmous (connected) Self as the complementary dimension to selfhood, suggesting that a conceptualization of s/Self[1] that includes both autonomous and homonomous dimensions could serve as a more robust construct for research and practice on an international basis. That was twenty years ago (Boucouvalas, 1988). The literature has expanded now and the world has changed as well.

TOWARD A GLOBAL VISION

I first lay some groundwork by offering the progression in the movement of my thought regarding homonomy as a developmental trajectory that complements autonomy in life and living, remembering that while some cultural environments emphasize development and nurturance of one trajectory more than the other, the challenge from a global perspective is balance.

As illustrated in Figure 1, employing the DNA double helix as a visual image, I am conceptualizing autonomy and homonomy, although oversimplified somewhat, as two complementary trajectories of development that very often become inextricably intertwined.
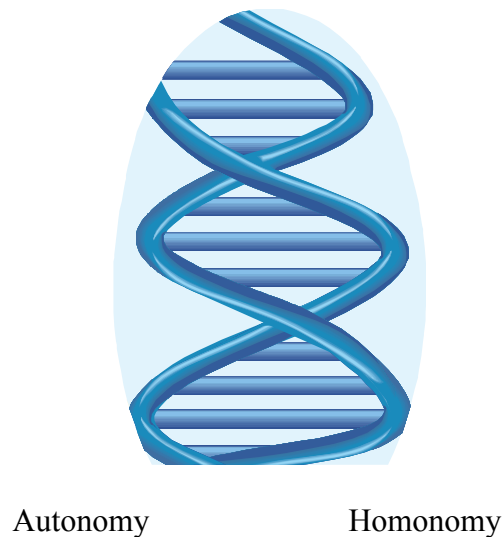
Autonomy   Homonomy

Figure 1. Autonomy and homonomy depicted as two complementary intertwining developmental trajectories (Image in public domain).

We have the ability, as demonstrated over the years, to develop an autonomous aspect of selfhood that enables us to: (a) take initiative and responsibility for learning, (b) understand ourselves as learners, and (c) maintain our self-direction, even when in other-directed

environments; however, as individuals we are also embedded in relationships, groups, communities and cultures, nations, and society-at-large. As well, beyond these affiliations, the entire human species shares a global identity as citizens of planet earth.

Figure 2 depicts an open system of worlds within worlds, contextualizing an individual as part of greater wholes, each of which addresses part of one's homonomous identity. Keeping mindful that the pull toward autonomy is motivated by achievement and self-governance, the pull toward homonomy draws meaning from being part of meaningful wholes and in harmony with superindividual units with which one identifies, such as those depicted in Figure 2: relationships, groups (professional, social, ethnic, etc.), organizations, communities, cultures, and nations, and of course ultimately as a member of the human species and planet earth. Participating in (and especially being motivated by) something greater than the individual self characterizes homonomy. One's Self-identity (with a capital *S*) emerges from such constellations.
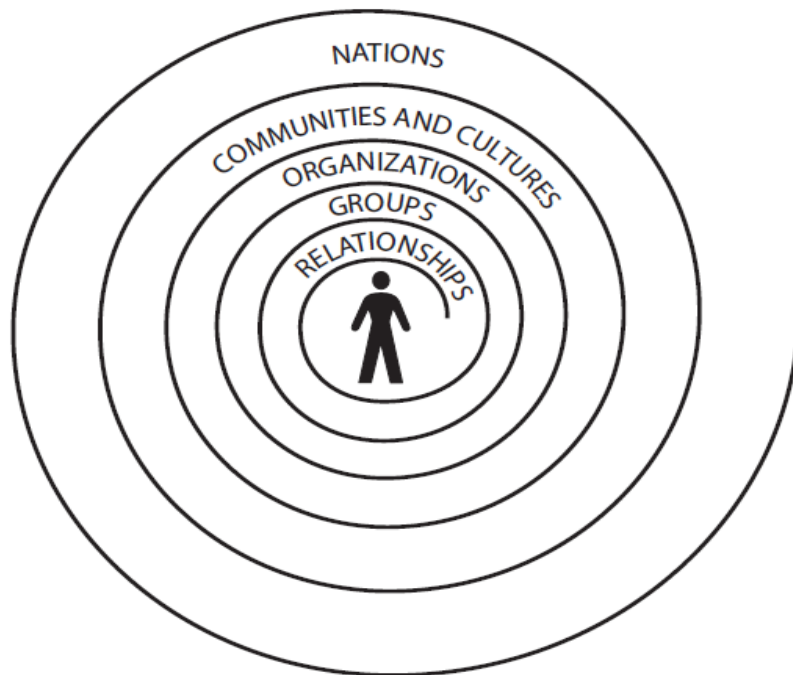
Figure 2. The individual embedded in contexts that contribute to homonomous identification and development.

As I have discussed elsewhere, however (Boucouvalas, 1999), any of the collectives in Figure 2 that afford homonomous identity to the individual can become autonomous in nature; that is, develop an autonomous identity, for better or worse. So the concept of autonomy can apply not just to individuals but also to collectives. An individual engagement of one's homonomous dimension by identification with an ethnic group, for

example, can in turn manifest as an autonomous identity for that group. In a beneficial sense, such groups can effect helpful social change. If, however, the group does not, in turn, engage its homonomous identification with an even greater whole, very often centrisms arise, such as ethnocentrism and nationalism. As we have seen around the world, such a situation can lead to deleterious results such as ethnic cleansing (or purging of others with whom one does not identity or whom one considers an aversive other). The more we can recognize, and preferably identify with, the greater whole of which our collective identities are part, our sense of objectionable other increasingly diminishes. This point is very important both to heed and understand.

Since the literature of self-directed learning relevant to an individual autonomous sense of self is fairly well established, much of my concern and discussion will focus on developing credibility for the meaning of Self-direction when undergirded by the homonomous sense of Self.

Distillation of Literature Related to Homonomy

Over the past twenty years the literature has expanded to acknowledge and address this phenomenon as voices from more collectivist-oriented cultures have offered views of self-identity that illuminate the collaborative interdependent aspects of self-directed learning. For example, almost a decade ago Nah (2000), speaking from a Korean perspective, emphasized that "not every culture promotes independence and autonomy as virtues" and, moreover, such virtues are "not an indication of a person reaching an idealized adulthood in Korean culture" (p. 18). Her research on the self-directed learning of female managers in male-dominated professions evidenced what she termed *interdependence*, a different form of self-direction in learning. She attributed this variation to the influence of the cultural context in shaping the person, emphasizing that interdependence is a virtue valued and promoted in Korean culture. Calling for research to contribute to a more global self-directed learning theory, she also stressed the need for balance, indicating that independence and interdependence were not mutually exclusive. Her position indeed resonates with my early plea that a conceptualization of s/Self that includes both autonomous and homonomous dimensions could serve as a more robust construct for research and practice on an international basis.

Other advances that may contribute to the further development of a global perspective on self-directed learning theory are being made in the literature of applied linguistics and the teaching of languages. The cross-cultural appropriateness (or inappropriateness) of the concept of learner autonomy has been of central concern for years. Within the past decade or so renewed dialogue has emerged acknowledging different interpretations and conceptualizations of autonomy around the globe. For example, Littlewood (1999) calls for an analysis of aspects of autonomy that may be quite appropriate to the language learning needs of learners in East Asian contexts; and Ho and Crookall (1995) offer a concrete example of how a large scale simulation can actually create a classroom environment in which taking responsibility fosters a context in which autonomy is learned. Sinclair (1997), in the newsletter of the International Association for Teachers of English as a Foreign

Language, warns against narrow interpretations of autonomy, reminding the reader that emphasis on promoting individual self-development rests upon a psychological view of autonomy. She calls for a broader conceptualization of autonomy, including social and political autonomy. Stating a position similar to Nah's (2000), Sinclair asserts that social autonomy involves interaction and collaboration; and political autonomy offers an orientation that helps a population coalesce around nation-building.

More recently, Eneau (2008) has also focused on constructing autonomy in new ways. He offers a consideration of the relevance and importance of "interpersonal relations in the construction of autonomy" (p. 230). Drawing from French authors, including the philosophies of Monier and Ricoeur as they inform LaBelle's educational theory of reciprocity in learning, he also calls for a broader understanding of autonomy that considers interactions with others and society as an essential part of becoming an autonomous learner. In so doing, however, he places relating and relationships as a prerequisite in the process, seemingly rejecting the notion of independence.

It becomes clear that each of these authors recognizes the need for a more global perspective on the meaning of self-direction in learning. Rather than drawing from the concept of homonomy to frame their discussion, however, they are choosing to suggest broadening the concept of autonomy. It is probable that many are not even aware either of Angyal's (1941) work or of the concept of homonomy. No matter how broadly the concept of autonomy can be framed, however, homonomy offers additional elements.

As already established, central to the developmental trajectory of the homonomous, connected self sense is the experience of motivation that emanates from participation in something greater than the individual. The motivational issue is an integral component of the concept. Moreover, the above discussions are limited in dealing with social, cultural, and political identification; what I refer to as a cognitive and perhaps emotional recognition that one belongs in a social sense to a particular group, organization, or country that can afford a sense of identity and has the potential to motivate one to think in terms of the collective. I find it increasingly useful, however, to differentiate a two-tiered conceptualization of homonomy. The first focuses on the social identification layer. Beyond the sense of belonging in a social sense are experiences that involve a shift in our structures of consciousness such that a broader source of motivation emerges. The "What is in it for me?" as an individual or group, for that matter, is superseded by, "What will benefit the planet or future generations?" This shift represents a transpersonal awareness and identification of one's commonalities as a member of the human species and a recognized interdependence on a planetary scale.

This second layer involves not just identifying and working in a group or community, but engagement of a larger sense of Self that fuels a different meaning to Self-direction because the motivation often is for a greater cause, even beyond one's group identification. The Millennium Development Goals invite this sense of Self in their call for developed and developing nations to work together, each with their own responsibility, toward the goal of sustainability, leaving the planet a better place for future generations.

So it seems that over the past twenty years we have arrived as a community of scholars, or a community of scholars has coalesced (although they may not yet know each other), to acknowledge the need for a more global perspective on self-directed learning, moving our dialogue from an exclusive focus on the *me* of self direction to inclusion of the *we* of self-direction. If we can build these advances into our thinking and practices in casting a broader, deeper net with regard to the theory and practice of self- or Self-direction in learning we can transcend some of the concerns as to whether a concept as important as self-direction in learning has applicability worldwide and revise the question from one of "if" to "how" and in what forms.

Moving beyond the literature, in practice the human species on a worldwide basis is being afforded an opportunity to observe Self-directed learning fueled by homonomy, albeit sometimes from otherwise unfortunate scenarios, as discussed below.

Relevant Experiences and Actions in Which Humanity Has Been Engaged and Engulfed

Since the dawn of 2000, the advent of our new millennium, catastrophic tragedies, both natural and human-made, with huge losses of lives have beset us as a human species on a worldwide scale. Examples include 9-11 in the United States, the tsunami in Asia, worldwide massacres and ethnic cleansings on several continents, floods and devastating destructions from hurricanes, the destruction of entire villages in massive fires and conflagrations, and the shooting sprees on campuses, especially the shocking massacre of epic proportions at Virginia Tech. Add to that the current worldwide financial crisis, and the interdependence of humanity becomes more palpable.

Consistently out of such events a similar theme emerges. Beyond the debilitating results, a ray of light emerges in a greater sense of Self that develops for many, a repeated phenomenon that warrants further consideration for the meaning of Self-direction in learning. Growth of a collective sense of Self is cultivated as many cope with the kind of learning that ensues from a shared sense of loss. This phenomenon emerges both among the victims (for lack of a better word right now) as well as the relief workers. Often spontaneously, these circumstantially formed groups in grieving and bonding together direct their own learning as part of the healing process of learning from loss. The meaning derived from being and becoming (in a homonomous sense) part of such a collective-turned-community fuels a *learning to be* process. At Virginia Tech, for example, well-meaning parents attempted to rescue their unharmed children from the campus, but the students repeatedly expressed the need to return to the community that understood. They had work to do for self and others and much to learn. Learning for them meant not just how to cope, but how to think about what happened, how to be part of the Virginia Tech community with a new sense of normal, how to be with the outside world of media and others, how to live together in a larger sense with all humankind. For many the learning from such an experience is lasting, including the emergence of a global compassion. Time will tell, of course, the degree to which this greater sense of Self will stabilize.

An Invitation to Explore Needed Next Steps

Just as there are ingredients, accumulated over decades of research, that contribute to successful development of an individual's autonomous capacities in self-direction, there may be equally important ingredients that contribute to homonomous Self-direction of individuals as well as collectives. Both are of import in the learning process. In addressing the development of a potentially more robust construct of self-direction in learning for global use, inquiry devoted to such complementary ingredients for success in Self-direction is a needed next step.

While it is well acknowledged that different countries and cultures tend to support the development of one developmental trajectory over another (i.e. autonomy or homonomy) in varying degrees, it is important to recognize that such differences are sometimes not due exclusively to culture. The differences also exist within individuals. As Angyal (1941) noted well over a half a century ago, the frequency of autonomous and homonomous tendencies differs among individuals in addition to varying among cultures. Caution is suggested, therefore, in over-generalizing applicability or non-applicability of current models just because someone may be immersed in a collectivist or individualistically-oriented culture.

 It seems equally important to consider that self-directed learning can be fueled by a balance between autonomous and homonomous drives. Both can operate simultaneously. In our globalized world it is balance between an individualized sense of self-motivation/direction and that of a larger sense of Self that is called for. That which brings about balance in one culture, however, may differ in another. As far back as the 1980s, in fact, authors such as Roland (1984) explained it this way: "In India it is the growing individualism within the dominant gestalt of the familial-transcendent selves, whereas in America there is a serious developing involvement in the realization of the transcendent self within the dominant mode of the individualized self" (p. 173). Both trajectories of development are part of what it means to be human. Although a culture may support development of one trajectory, the other can never be obliterated, Angyal (1941) notes that western cultures, even with their emphasis on power and achievement, can discourage but not obliterate the homonomous tendency, which is fundamental to the nature of humankind. Some homonomous expression is essential for what he termed normal adjustment. Moreover, from my perspective, whether one lives in or has been shaped by an individualistic or collectivist culture, that boundary, which may be a false dichotomy to begin with, may be blurring for some of humanity.

Finally, further attention to the meaning accorded the concept of self would benefit from a socio-linguistic analysis. In order to move toward a more global theory of self-directed learning it is essential to understand the degree to which language reflects culture and vice versa, and the degree to which language affects one's thinking as well, positions established at least as early as the 1930's by American sociolinguist Benjamin Lee Whorf (2001). While the voluminous literature on self-direction may be clearly understood in the English

language, there may not be a word for self-direction in learning in some languages. Such a feat would call upon those who are equally proficient in bi-, tri-, or multi-lingual matters, not just from a linguistic but from a socio-linguistic perspective; that is, understanding the way of thinking and being that accompanies the language itself. As a complement to a sociolinguistic approach, development of a more global theory on self-direction may benefit from a fundamental multidisciplinary understanding of the concept of self as articulated in the disciplines of psychology, sociology, anthropology, political science, and perhaps other bodies of knowledge.

So, we have many needed next steps. At minimum, the past twenty years have witnessed increased interest and discussion in the global applicability of self-direction in learning. Where might we want to be twenty years hence?

[1]For purposes of this paper, *self* with a lower case *s* refers to one's separate individual self, while *Self* with a capital *S* refers to the expanded connected sense of Self represented by homonomy.

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SELF-DIRECTED LEARNERS CHANGE OUR WORLD: SDL AS A FORCE FOR INNOVATION, DISCOVERY, AND SOCIAL CHANGE

Lucy Guglielmino, Elizabeth Gray, Kim_Le Arvary, Joe Asen, Donna Goldstein, Fran Kamin, Monica Nicoll, Nancy Patrick, Krista Shellabarger, Deborah Snowberger

Committed, innovative, persistent self-directed learners, in their searches for meaning, justice, or better ways to do things in their own lives, sometimes pursue paths that contribute to advances in knowledge or technology or a more equitable, charitable, or just society....Our societies move forward through the efforts of dedicated self-directed learners. (Guglielmino, 2008, pp. 9-10).

This paper further explores the thesis that society advances through the efforts of self-directed learners. The thesis is investigated through examination of biographies and other written documentation of innovators--explorers, scientists, inventors, and social activists who changed our world, often pursuing their goals despite adverse circumstances. The authors reviewed the gathered data for evidence of self-direction in learning (SDL), extracted commonalities, and compared the characteristics and actions of the innovators with those commonly attributed to self-directed learners. The research documented extensive evidence of SDL among the innovators and revealed that their SDL was integral to their achievements. Evidence contrary to many of the myths surrounding SDL was reflected in these innovators, the most important being a strong sense of social responsibility and desire to contribute to the well-being of others that drove many of their self-directed learning efforts.

How do the individuals whose efforts move our society forward gain the knowledge and experience they need to accomplish their purposes? This paper examines historical accounts of the lives and work of a number of individuals who have made or led important discoveries, innovations, or social changes that resulted in major benefits for others. The lives of these innovators were explored in an effort to determine if they displayed actions and characteristics congruent with those described in the literature on self-directed learning.

CONCEPTUAL FRAMEWORK

This inquiry grows from three streams of literature: writings and research on the process of self-directed learning; research on the characteristics of highly self-directed learners, including findings of prior research on the relationship between self-directed learning and performance and other correlative studies; and prior examinations of the self-directed learning of notable individuals through analysis of their biographies and other written documentation.

The SDL Process and Learner Characteristics

Primary resources on the process of self-directed learning for this pilot study were Tough (1971, 1979), Knowles (1975), Spear (1988), and Brockett and Hiemstra (1991). Tough studied in detail the learning projects of adults and reported 13 steps he found to be common in their learning processes, emphasizing the role of self-planning and location of resources. Knowles offered what has become the most widely-used definition:

> In its broadest meaning, "self-directed learning" describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 18)

Spear (1988), expanding on his work with Mocker (Spear & Mocker, 1984) added insights on the role of prior experiences, environmental influences, and chance occurrences on the choice of learning methods and timing of clusters of learning. Brockett and Hiemstra's (1991) work echoed the interactive focus, differentiating two aspects of self-direction in learning (SDL): the characteristics of the teaching-learning transaction (self-directed learning) and the characteristics of the learner (learner self-direction), which interact with each other and the social context. The primary referent for the characteristics of a self-directed learner was the description of a highly self-directed learner that emerged from L. Guglielmino's (1978) Delphi study of experts in the field, such as Knowles, Tough, and Houle.

Relationships of SDL with Performance, Leadership Level, and Entrepreneurship

The correlations of high levels of readiness for self-directed learning with performance, leadership level, and entrepreneurship also form an important part of the conceptual framework for this study. Innovators whose work advances our society are high performers and leaders of change, and they share many circumstantial similarities with entrepreneurs.

Performance
Research using the Self-Directed Learning Readiness Scale (SDLRS)[1] (Guglielmino, L., 1977), which was developed to assess the characteristics, abilities, and attitudes identified by the consensus of the Delphi experts, has established a positive relationship between self-directed learning readiness and performance. In addition, when the SDLRS scores and performance ratings have been examined in relationship to job characteristics, the high performers who reported that their jobs involved a high degree of change or required high levels of creativity or problem-solving ability had SDLRS scores that were significantly higher than the means of other respondents (Durr, 1992; Roberts, 1986; Guglielmino, P., Guglielmino, L., & Long, 1987). In other studies, Connolly (2004), Jude-York (1993) and Zsiga (2007), among others, also found significant positive correlations between self-directed learning readiness and performance.

Leadership Level
One measure of long-term performance is elevation to levels of higher responsibility. Individuals who rise to leadership positions in both for-profit and nonprofit organizations have been documented in many studies to have high readiness for self-directed learning or to demonstrate extensive evidence of self-direction in learning. Quantitative studies have demonstrated significantly higher SDLRS/LPA scores for managers than non-managers in business and industry (Durr, 1992; Roberts, 1986) and exceptionally high scores for top female corporate executives (Guglielmino, L., 1996). These results are supported by qualitative studies and those using mixed methods: for example, Kandarian (2004) used in-depth interviews to gain insight into how highly successful senior executives learn to guide their organizations to be high-performing. She found that the executives "employed self-directed learning as a key personal strategy. They directed their learning by reading, seeking to learn from others, including friends, peers, and others in the business world, and observing and seeking models" (p. 175). Despite an abundance of opportunities for and involvement in formal training and education, senior executives indicated that they "learned their skills primarily through experience and self-directed learning, and they developed their attitudes primarily through key experiences and interactions with others" (p. ii).

In nonprofit settings, the results have been similar. Liddell (2007) found a high level of self-directed learning readiness in a primarily qualitative study of women executives of philanthropic organizations. The lengthy interviews with these leaders revealed many references to their continuous self-directed learning, which they reported as being conducted primarily through conversation. Their mean *SDLRS* score of 248.2 was also high, nearly the same as the mean of the top U.S. entrepreneurs. Similar results were obtained in Phares' (2006) study of community leaders and Hillard's (2005) study of an elite group of elementary principals selected for state recognition for their success in leading reading improvement in their schools.

Entrepreneurship
The findings of positive relationships between self-directed learning readiness, management level, and job performance, especially in highly changing jobs that required creativity and problem-solving, logically led to an examination of the presence of readiness for self-directed learning among a group of exceptionally high achievers in the workplace: top entrepreneurs in the U. S. The 162 respondents from *Inc. Magazine's* 500 top entrepreneurs (Guglielmino, P., & Klatt, 1994) had a very high mean SDLRS score (248.6, as compared to a general mean of 214). This study was especially relevant to the examination of the use of self-directed learning by innovators who changed society; like entrepreneurs in business, innovators must break new ground, normally operate outside of established institutions or organizations, and form their own support systems. Rather than following the directives of others, they must chart their own paths to achieving their goals.

Other Notable Correlations with Readiness for Self-Directed Learning

Many other characteristics associated with innovation have been found to correlate strongly with SDLRS scores; for example: *independent mastery* ($r = .56$; $p < .001$), *independent*

judgment (*r* = .54; p < .001), *intrinsic orientation* (*r* = .64; p < .001), and *curiosity for learning* (*r* = .79; p <. 001) (Posner, 1991); *conscientiousness* (*r* = .61; p < .001) (Oliviera and Simões, 2006); *emotional intelligence* (*r* = .59, p <.01) (Muller, 2007); *strategic thinking* (*r* = .58, p <.001) (Zsiga, 2007); *cross-cultural adaptabilty* (*r* = .69, p <.001) (Chuprina & Durr, 2006); and *resilience* (*r* = .61; p < .001) (Robinson, 2003), to name a few. Moderate correlations have been reported with *creativity* and *flexibility* (Cox, 2002; Torrance & Mourad, 1978).

Prior Biographical Studies

Prior biographical studies of self-directed learners also provide a valuable referent for examining the self-directed learning of innovators who have changed our society. Long (1989) examined the work of Wilder Penfield, who pioneered many techniques in neurosurgery, and Cavaliere (1990) analyzed the process of self-directed learning used by the Wright brothers as they developed the airplane. Guglielmino (2008), after a review of reasons for the importance of fostering learner self-direction, offered brief biographical analyses of Marie Curie and George Washington Carver as illustrations of her thesis that *"Our societies move forward through the efforts of dedicated self-directed learners"* (p. 10). Curie and Carver are included in this analysis.

PURPOSE

The purpose of this research was to examine the lives of innovators in a wide variety of endeavors whose innovations made major contributions to the advancement of society, whether through invention, discovery, or leading social change. In particular, their approaches to learning and personal characteristics were analyzed and compared to the learning processes and characteristics commonly associated with highly self-directed learners.

METHODS

This pilot study was primarily historical, conducted through analysis of multiple written records of the subject's lives. The researchers examined all of the collected biographical data and quotations, reached a consensus on the predominant characteristics of these individuals, further verified the common characteristics, and compared those characteristics and the innovators' learning processes to those of highly self-directed learners.

Procedures

Sample Selection
The sample for this study was purposeful. Participants in a research seminar independently identified one or more innovators whose efforts have had a broad impact, whether through discovery, invention, or furtherance of social justice. They were not limited to historical figures, but were free to choose any individual, living or dead, whose innovations, discoveries, or new initiatives moved our society forward in some way.

Data Collection
Each researcher consulted multiple sources, preferably including an autobiography or a biography rich with quotes from the innovator, to gather biographical information. Each researcher also selected quotes that illustrated aspects of the individual's characteristics or actions that reflected SDL, with emphasis on learning processes and characteristics, obstacles overcome, mentors, and achievements. After the presentation of vignettes to the group, the research data was posted to a shared website (Blackboard) so they could be examined by all of the researchers: the presentation Powerpoints; additional, more detailed information on the innovators; and key quotes. The use of multiple sources for the research on each innovator and examination by multiple individuals of the information and quotes collected was designed to increase the reliability and validity of this historical research.

Data Analysis
Following the presentation of the vignettes and examination of the posted materials, each of the researchers independently listed the predominant characteristics shared by the group of innovators. The independent listings were compiled and preliminary groupings were formed. After examination of the compilation, which included frequency counts as well as descriptors, the researchers identified six central commonalities. The researchers then reviewed their source materials on the innovators they had chosen in order to further verify the common characteristics and add additional specific quotations to the group's data bank. Again, Blackboard served as a vehicle for individual researchers to share their data with their colleagues. After the additional data was reviewed, it was compared to commonly used definitions and descriptors of self-directed learning (Knowles, 1975; Tough, 1979), characteristics of highly self-directed learners (Guglielmino, L., 1978), and prior studies of innovators (Long, 1989; Cavaliere, 1990). the group then formulated preliminary findings, conclusions, and implications for practice.

Limitations

This study is exploratory. The subjects were chosen using very broad parameters: "an innovator whose invention, discovery, or pursuit of social justice made a major contribution to society." The subject pool is small; only 12 innovators are profiled, limiting the generalizabilty of the findings. The study is also subject to the usual limitations of biography and autobiography, such as the desire to present the best picture for posterity, although an effort was made to mitigate this effect by consulting multiple sources on each innovator.

THE INNOVATORS

Each researcher chose one or more innovators whose efforts have had a broad, positive impact through discovery, invention, or furtherance of social justice. Very brief descriptions of each innovator follow. Because of space limitations, only two references are included for each subject.

Susan B. Anthony (1820-1906). A prominent abolitionist, educational reformer, labor activist, temperance worker, and a campaigner for women rights, she organized the International Council of Women in 1888 and the International Woman Suffrage Alliance in 1904. Although she did not live to see the passage of the Nineteenth Amendment in 1920, her 45 years of crossing the U.S. giving speeches in support of women's rights are credited with paving the way for its passage (Lutz, 1959; Susan B. Anthony House, 2009).

George Washington Carver (1864-1943). Born a slave, he was taught to read by his former owners. His insatiable curiosity, determination to continue his education, and self-taught knowledge of plants ultimately led to a position as the first Black student and first Black faculty member at Iowa State University, and two honorary doctorates. Although gifted in music, he chose to pursue a career in which he could assist poor farmers. He made many contributions to agricultural improvement and rural economic development, and was hailed as the man who saved the South from poverty. He was one of 100 nominees for "The Greatest American" in 2005 (Fishbein, 2007; Jackson, D., & Jackson, N., 2008).

Marie Curie (1867-1934). Curie determinedly pursued her education and her research throughout her life despite facing double prejudice, as a woman and a Polish national when Russia controlled Poland. With other Polish youth, she formed a secret school in which the students studied on their own and then met to teach each other what they had learned. After much hardship, Curie discovered radium and polonium, changing the way we think about matter and leading to many medical advances. She was the first woman to earn a doctorate in France, the first female professor at the Sorbonne, the first person to win more than one Nobel Prize (American Institute of Physics, 2000; Quinn, 1995).

Vicktor Frankl (1905-1997*).* As a young man, Frankl initiated correspondence with Freud and Adler to share and refine ideas. After years of thought and experimentation, he created a new form of psychotherapy, *logotherapy* and existential analysis, described in one of his 32 books, *Man's Search for Meaning*. Imprisoned in the German concentration camps in World War II, he counseled and assisted others in the midst of his own abuse and near-starvation, helping them find comfort in their mental and spiritual lives. An avid learner in many aspects of his life, he learned to fly at 67 and was an active mountain climber until he died at 92 (Frankl, 1963; Frankl, 2000).

Benjamin Franklin (1706-1790). Almost an icon of self-directed learning, Franklin was born poor, one of 17 children. Dropping out of school at age 10 to assist in his father's soap-boiling business, he was soon apprenticed to his brother James, a printer, because he loved to read. He became one of the most learned men of his time, speaking six languages, writing many essays and his well-known *Poor Richard's Almanack*, co-owning and publishing *The Pennsylvania Gazette*, and founding the University of Pennsylvania. He also co-founded the nation's first subscription library and the American Philosophical Society, the first learned society in the U. S. He was instrumental in the formation of the United States, participating in Continental Congress, working as one of the committee of five who wrote the Declaration of Independence, and participating in the Constitutional Convention. Throughout his life he strove for self-improvement and the improvement of society. His last

public act was the publication of an anti-slavery treatise (Franklin, 1793; Independence Hall Association, 2009).

Bill Gates (1955-). Chairman and co-founder of Microsoft, Gates was the world's wealthiest person in 2009. One of the best-known entrepreneurs in the technology industry, Gates wrote his first computer program when he was 13. In middle school, he was called into the principal's office for using up all of the school's computer time in just a few weeks. Although he began working toward a law degree at Harvard, he often slept through classes because he had been working on the computer all night. He left before finishing his degree to found Microsoft Corporation with Paul Allen in 1975. A billionaire by age 31, Gates has created the largest transparently owned charitable foundation in the world, the Bill and Melinda Gates Foundation, which funds research in health and learning and works to bring innovations in these fields to the global community (Lowe, 1998; Wallace, 1992).

Sarah Grimke (1792-1873) and *Angelina Grimke* (1805-1879). Sarah and Angelina Grimke were the first women to speak publicly against slavery in the United States. Unable to bear the injustice they witnessed as young children, they developed an early hatred of a system that allowed the mistreatment of slaves. They left a wealthy and indulgent lifestyle as daughters of a South Carolina Supreme Court judge to join the Society of Friends and fight for abolition. Though it was considered inappropriate for women to speak or write publicly, and they faced violent public criticism and accusations that they were defaming the female character by defying that convention, they persisted. Realizing that the attempts to bar them from speaking and writing for a cause they believed in because of their gender also demanded action, they began to argue for women's rights as well. Angelina was the first woman to address a state legislature (Massachusetts, 1838), and both women wrote eloquently against slavery. Sarah wrote the first published document of the women's rights movement, *Letters on the Equality of the Sexes*, a carefully reasoned 132-page Biblical argument for the equality of women, ten years before the Seneca Falls Convention that most mark as the beginning of the women's rights movement in the United States. "Through their examples and their words, the Grimke sisters proved that women could affect the course of political events and have a far-reaching influence on society" (National Women's Hall of Fame, p.1) (Birney, 1885; Lerner, 1971).

Dean Kamen (1951-). As a youth, Dean Kamen did not consider himself smart; but, inspired by the story of David and Goliath, he began to realize that difficult problems could often be solved with a simple solution. He began work on his initial inventions in high school, developing a medication delivery system in his parents' garage. Although he enrolled in a technical college, he did not attend class, but made extensive use of the laboratories and equipment. The individual who was described by his teachers as stubborn and relentless now holds over 400 patents, including the Segway Human Transporter, the portable kidney dialysis machine, a wheelchair that climbs stairs, and a mind-controlled robotic arm used by veterans who have lost limbs. Most of his inventions are inspired by his desire to better conditions for those in need. He founded FIRST (For Inspiration and Recognition in Science and Technology), which motivates thousands of students annually

to pursue worthy projects in science and technology (Kamen & Walsh, 2007; Kemper, 2003).

Konosuke Matsushita (1894-1989). Founder of Panasonic Corporation, Matsushita was born into a Japanese farming family that became suddenly impoverished. Their extreme poverty and malnutrition led to sickness, and his parents and five siblings were all dead by the time he was 30. Apprenticed at 9 to a seller of charcoal hibachis, he learned some fundamentals of business. Humble, frugal, and hard-working, he found himself another job at 10 and gradually accumulated some resources. In the early 1900's he founded Matsushita Electric with the corporate mission of relieving people in poverty by producing appliances that would improve their lives (heaters and rice cookers to replace open fires, electric lights to replace candles). He became one of the world's most wealthy entrepreneurs through his vision to create a society that is both spiritually rich and materially affluent. He founded two learning institutions: the Peace and Happiness Through Prosperity Institute, designed to prevent Japan from ever engaging in another World War, and the Matsushita Institute of Government and Management. Active in his own learning as well as in educational and philanthropic efforts until his death at 94, he is regarded as one of Japan's national heroes (Kotter, 1997; Matsushita, 1994).

Rigoberta Menchú Tum (1959-   ). Born in Guatemala as a member of the oppressed indigenous Quiche-Mayan ethnic group, she experienced the brutal attacks on her people during Guatemalan Civil War (1960-1996). At an early age, she became a social activist against the abuses and learned other Guatemalan dialects and Spanish in order to be a better spokesperson. In defense of their people, the Menchú-Tum family experienced great loss: Rigoberta's mother, father, and brothers were tortured and killed by Guatemalan government forces. Escaping to Mexico, she dedicated her life to bringing attention and justice to the brutality occurring in her country. In 1983 she told her story to Elisabeth Burgos Debray, who assisted with her autobiography, *"I, Rigoberta Menchú."* It was translated into 12 languages and gained international attention for her cause. Through her complaints filed in the Spanish courts, she had several members of the Guatemalan government removed and prosecuted. Winner of the Nobel Peace Prize in 1992 and co-founder of the Nobel Women's Initiative in 2006, she continues her advocacy for the rights of women and indigenous people (Burgos-Debray, 1984: Nobelprize.org, 2009a).

Georges Seurat (1859-1891). After studying at the Ecole des Beaux Arts for two years, Seurat left without graduating. At 21, he returned to Paris to pursue his painting. In his short (11-year) career, he studied color theory, the effects of different linear structures, and the use of color to create harmony and emotion; developing the style of painting called pointillism, in which small dots or points of primary colors create a picture. Because of this innovation, he has been called the father of neoimpressionism. In less than eleven years, Seurat created over 500 works of art, including 7 major paintings, 40 smaller paintings, and over 500 drawings. (Schapiro & Sahlman, 2007; Olga's Gallery, 2002).

Wangari's Maathai (1940-   ). Born in a rural village in Kenya in 1940, from her childhood she witnessed destruction of the land, wildlife, and the human spirit in her country. She

pursued education and knowledge as a means out of poverty, to serve her community, to re-establish a balance in nature and to restore pride in her country. Overcoming intense adversity – wars, political imprisonment, and persecution – she became an environmental and political activist, pursuing women's rights, environmental and wildlife conservation, and sustainable living. After founding the Green Belt Movement, which, through networks of rural women, has planted over thirty million trees across Kenya since 1977, she was elected to Kenya's Parliament in 2002. In 2003 she was appointed assistant minister for the environment, and in 2004 she became the first African woman to receive the Nobel Peace Prize for "her contribution to sustainable development, democracy and peace" (Nobelprize.org, 2009b; Maathai, 2006).

FINDINGS

The innovators studied all, even on preliminary inspection, demonstrated extensive evidence of the actions and characteristics of highly self-directed learners.

Learning Processes of Innovators

The systematic needs analysis and planning for self-directed learning described generically by Knowles (1975) and Tough (1971, 1979) and specifically by Long (1989) and Cavaliere (1990) were evident in each of the innovators studied. The work of Kamen, Curie, Gates, and Carver as they systematically pursued experimentation and discovery over many years are among the best examples of needs analysis, planning, reflecting, and reframing. Each of these innovators followed a process similar to the steps derived by Cavaliere (1990) from her study of the Wright brothers' learning endeavor that led to the invention of the airplane: inquiring, modeling, experimenting and practicing, theorizing and perfecting, and actualizing. Others followed a differently focused, but consistent, learning process in order to reach their goals. Examples include Rigoberta Menchu Tum's efforts to learn several other Mayan dialects besides her own as well as Spanish in order to be more effective in organizing her people against the violence they were experiencing; Frankl's dedicated study of psychotherapy, experimentation, and regular correspondence with Freud and Adler as he searched for a more effective approach to counseling; and the concentrated efforts of Angelina Grimke after she decided to prepare herself to be a teacher:

> Straining against the enforced slow pace of preparation for the Quaker ministry once she moved North. . . , Angelina. . . .set about fitting herself to be a teacher. Working every night after working all day at charities and Quaker meetings, she prepared a course of study in history, arithmetic, algebra, geometry, biography, and travels with great zest. (Birney, 1885, p. 64)

The interactive nature of SDL as emphasized by Spear (1988) and Brockett and Hiemstra (1991) and documented by Kandarian (2004) and Liddell (2007) was also very evident. Environmental and social contexts, prior knowledge, and chance occurrences often influenced the innovators' choices of learning projects and methods of pursuing them or

provided valuable insights. Illustrating the chance occurrence, when Kamen slipped getting out of the shower and threw his arms back to regain his balance, he achieved a breakthrough in the development of his Segway, an individual mobility device. The extreme poverty of Matsushita's family not only fueled his purpose, but led to the acquisition of valuable knowledge and skills derived from his experience of having to earn his own living from the age of nine--resources that he later applied in the development and sale of new products when he founded his own company.

Characteristics of Innovators

The six central commonalities identified from the researchers' independent listing of predominant characteristics of the innovators studied were *knowledge-seeking; strong purpose, goal, vision, or passion; independence and self-reliance; ability to overcome obstacles; ambition and self-motivation;* and *social responsibility and altruism*. The first five of these themes are represented in the expert consensus on characteristics of highly self-directed learners derived from L. Guglielmino's (1978) Delphi study that formed the conceptual basis for the Self-Directed Learning Readiness Scale:

> A highly self-directed learner, based on the survey results, is one who exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacles; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who is able to use basic study skills, organize his or her time and set an appropriate pace for learning, and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-oriented. (p. 73)

The commonalities are presented in more depth below, followed by sample quotes or descriptions to illustrate each.

Seeking Knowledge
The eager pursuit of knowledge, fueled by a love of learning and with an emphasis on assuming responsibility and continuing learning was most often mentioned and was noted in all of the innovators. Descriptors included phrases such as *early interest in learning, curiosity, love of learning, lifelong learning, took responsibility for own learning, self-taught, sought freedom to learn and/or freedom in learning,* and *sought continuous growth and improvement*. Access to educational institutions was pursued or desired by most, but was sometimes not attainable because of prejudice or poverty (for example, Curie, the Grimke sisters, Carver, Franklin). However, there was also a subtheme of not fitting into established educational institutions for several of the innovators, such as Kamen. Gates, and Seurat.

Gates: " I'm not an educator but I am a learner. And one of the things that I like best about my job is that I'm surrounded by other people that love to learn" (Lowe, 1998, p. 43).

Sarah Grimke: Her bright, active mind eagerly reach[ed] after the kind of knowledge which in those days was considered food too strong for the intellect of a girl.... She begged hard to be permitted to study Latin, [law, and philosophy] and began to do so in private, but her parents and brother opposed it. (Birney, 1885, p. 4.)

Focused on a Strong Purpose, Goal, Vision, or Passion
This grouping, also common to all of the innovators, centers on the sense of purpose that often drives self-directed learning. Many also expressed *discontentment with the current state of affairs* and *a desire to change things for the better*; for example, Anthony's and the Grimkes' goals of the abolition of slavery and women's suffrage, Kamen's passion for designing innovations primarily to assist the handicapped and the poor, Tum's lifelong campaign to make herself a spokesperson for her people in order to keep them from being brutalized.

Angelina Grimke: "If only I could be the means of exposing the injustice that was practised in the institution of oppression [slavery], . . .this idea . . . reconcile[s] me to suffer" (Birney, 1885, p. 8).

Wangari Maathai: "I became convinced that we needed to identify the roots of disempowerment that plagued the Kenyan people. We had to understand why we were losing firewood; why there was malnutrition, scarcity of clean water, topsoil loss...." (Maathai, 2006, p. 173).

Displaying Independence/Self-Reliance/Risk-Taking
Descriptors for this category included *independent in thinking and learning, abstract thinking outside the norm, self-reliant, risk taker,* and *unconventional.*

Anthony: In 1872, Susan demanded that women be given the same civil and political rights that had been extended to black males under the 14th and 15th amendments. Thus, she led a group of women to the polls in Rochester to test the right of women to vote. She was arrested two weeks later…. (Litt, n.d., p. 1)

Kamen: Taking risks is essential....I quit school...and started a company in a basement with no money. I discovered that I'm a risk taker. I get up in the morning knowing that I'm either going to have a spectacular win or loss that is going to be exciting...either is more appealing than the warm death of mediocrity. (Kamen & Walsh, 2007, p. 68)

Overcoming Obstacles or Hardships

There was ample evidence that the innovators studied *perceived obstacles as merely challenges*. Not to be deterred by difficult or seemingly impossible obstacles, they displayed *perseverance, persistence,* and *resilience* in the pursuit of the learning needed to achieve their goals, modeling a wider perspective of what is possible. The viewing of obstacles as simply challenges is perhaps the most succinctly expressed in the final words of Susan B. Anthony: "Failure is impossible" (Rochester Regional Library Council, 2000, p.1). Again, examples could be provided for each innovator.

> Tum: Refusing to acknowledge the accepted power distance that allowed the subjugation of women and her ethnic group in Guatemala, Rigoberta Menchu Tum rose from a poorly educated member of a persecuted minority group to an international figure who achieved some measure of justice for her people through the courts of Spain (Burgos-Debray, 1984).

> Carver: Born a slave and orphaned as an infant, Carver was very frail throughout his youth due to whooping cough; wandering in the fields because he was too weak to work, he began to teach himself about plants. Taught to read by his owner's wife, he persistently sought further education, leaving his safe existence to find a school that would admit him and doing whatever work he could find to support himself while he studied (Fishbein, 2007).

> Frankl: He survived the concentration camps in 1942, helped countless others to endure the torture, and found new meaning in suffering. Reflecting his own means of survival in the camps, he wrote, "if a prisoner felt that he could no longer endure the realities of camp life, he found a way out in his mental life--an invaluable opportunity to dwell in the spiritual domain, the one that the SS were unable to destroy" (Frankl, 1963, p. 123). He translated his study and his experiences into a new form of psychotherapy and his renowned book, *Man's Search for Meaning*.

Demonstrating Ambition/Drive/Self-Motivation

The innovators all displayed ambition, drive, and self-motivation, but not necessarily focused on their own gain. In fact, several placed themselves in great personal danger to pursue the objectives they hoped to achieve.

> Matsushita: From a penniless boy working in a bicycle shop, he went on to start his own company at 23. In 1964 was hailed internationally as one of the greatest industrialists of the century and one of the richest men in the world-- and used his money to further his goals of peace and prosperity for his people (Kotter, 1997).

> Sarah Grimke: As a child of four, she witnessed the beating of a neighbor's slave and ran away from home; she was later found at the port asking a ship captain to take her to "some place where such things did not happen"

(Lerner, 1971, p. 19). Her strong commitment to end slavery began in childhood incidents such as these and continued as she defied her father and persisted in treating the slave assigned to her as a companion and teaching her to read illegally. When she could no longer live in a household that held slaves, she abandoned home and family and began her influential work for abolition in earnest. For her inheritance, she asked only for the family slaves, whom she immediately released (Lerner, 1971).

Demonstrating Social Responsibility/Altruistic
Many of the innovators displayed a *strong sense of social responsibility* and *a deep commitment to the betterment of society*. Several gave up comfortable lives to attempt to contribute to a more equitable and ethical society, and maintained their convictions despite being rejected or chided by their families and friends for their efforts.

> Curie: "You cannot hope to build a better world without improving the individuals. To that end each of us must work for his own improvement, and at the same time, share a general responsibility for all humanity" (American Institute of Physics, 2000, p. 187).

> Franklin: His "Junto" discussed the needs of the community and how to meet them. Franklin initiated the public library, American Philosophical Society, University of Pennsylvania, and a charity hospital. He strove for self-improvement and the improvement of his society (Independence Hall Association, 2009).

> Carver: "He could have added fortune to fame, but caring for neither, he found happiness and honor in being helpful to the world." - Epitaph on the grave of George Washington Carver (Bellis, n.d, p. 3).

CONCLUSIONS

The overarching conclusion of this study is that the research supports the examined thesis: Our societies move forward through the efforts of dedicated self-directed learners. While keeping in mind the limitations of the study, several supporting conclusions suggest broader dimensions for our understanding of self-direction in learning and its importance today.

The extensive self-directed learning of the innovators studied was integral to the achievement of their contributions to society. As amply demonstrated in the findings, each of the innovators chosen was unquestionably a highly self-directed learner; and self-directed learning was the vehicle through which they achieved their goals. Simple logic supports this conclusion: if you are opening new frontiers of knowledge, invention, discovery, or social action, who best can lead you but yourself?

The innovators, almost without exception, pursued their learning not simply for personal advancement, but also, and often primarily, for the betterment of society. In fact, more than half of them voluntarily sacrificed their personal comfort, endangered themselves physically or materially, or endured social ostracism in order to pursue their learning and their goals. Their altruism was one of the characteristics noted most often by the researchers, epitomizing Ricoeur's (1990/1996) comment: "The autonomy of the self appears to be intimately linked to concern for those close to us, and to justice for everyone" (cited in Eneau, 2008, p. 238). This aspect of self-directed learning, too often overlooked, was, in fact, the primary driver for the SDL of most of the innovators studied.

Brockett and Hiemstra (1991), in a comment often echoed, note that SDL may be linked in some people's minds with the self-centeredness and hedonism associated with the "me" generation (p. 12). Boucouvalas (1988) noted that "the literature on self-directed learning seems to have given almost exclusive attention to autonomous capacities and achievements" (p. 57), a situation that has led to criticism of promotion of SDL on the assumption that it promotes an individualistic or materialistic focus which ignores the larger societal context (Candy, 1991; Collins, 1991; Griffin, 1987; Hammond & Collins, 1991). These authors argue for a greater consideration of what Boucouvalas calls the homonomous self--the self that is connected to the larger society. Both autonomous and homonomous self-directed learning and self-development were reflected in the innovators studied. Although some addressed societal needs only later in their lives, most were driven by them for the majority of their lives. The examination of the role of self-directed learning in the accomplishments of the innovators supports Brookfield's (1993) defense of SDL as a tool that can lead to emancipatory change. A few additional quotes are offered to support this important conclusion:

> Success, like happiness, cannot be pursued; it must ensue, and it only does so as the unintended side-effect of one's personal dedication to a cause greater than oneself. . . . (Frankl, 1963, p. 16)

> We can work together for a better world. . . .The world needs a global ethic. . . [to] give meaning to life experiences and . . .sustain the non-material dimension of humanity. . . .Those of us who have been privileged to receive education, skills, and experiences and even power must be role models for the next generation of leadership. (Nobelprize.org, 2009b, p. 1)

The myth of the single, non-social, self-directed learner is not supported by this research, verifying Brockett and Hiemstra's (1991) comments. The innovators studied used a wide variety of methods to pursue their learning, including consultation, joint research, and the formation of study groups such as the one formed by Marie Curie to assist Polish patriots barred from higher education in their occupied country to continue learning and share their knowledge with each other. Liddell's (2007) and Kandarian's (2004) qualitative findings are similar.

The findings of this study affirm the presence of self-direction in learning among persons representing a wide range of age groups and economic, educational, social, racial, and ethnic backgrounds. Brockett and Hiemstra's (1991) assertion that self-direction in learning is not limited to those settings where freedom and democracy prevail nor to any socioeconomic group or race is supported by the findings. Flannery's (1993) concern that the values inherent in sdl might not be applicable across all groups and cultures, especially women, African-Americans, Hispanic-Americans, and others is not supported by this study.

IMPLICATIONS

The broader view of self-direction in learning gained from examination of the innovators in this study provides an even stronger rationale for the nurturance of self-direction in learning--not only in our educational institutions, but also in our organizations and our homes. For too many students in formal educational institutions, *learning* is equated with routine, unexciting memorization of facts and completion of imposed tasks designed to move them toward goals set by others. This syndrome is becoming ever more evident as many of our schools are increasingly focused on accountability, with achievement measured by standardized tests (Soublis-Smyth, 2008). It is an approach to education that develops conformity, passivity, and boredom. As the schools become more test-focused, the curriculum narrows; and activities such as art, music, and community service projects that contribute to wholeness, social awareness and responsibility are eliminated. The exercise of individual choice and the opportunity to pursue projects of personal choice are lessened. It is notable that a number of the innovators studied dropped out of formal educational programs or were viewed as troublesome students, congruent with the findings of the study of self-taught experts conducted by Gibbons and others (Gibbons, Bailey, Comeau, Schmuck, Seymour, & Wallace, 1980).

The current U. S. educational trends are in conflict with the literature on globalization, our rapidly changing society, and the decreasing half-life of knowledge, which provides a mandate for the development of individuals who are skilled in assessing their learning needs and designing, implementing, and evaluating their learning throughout their lifetimes: lifelong, self-directed learners. While a number of educational institutions are dedicated to developing lifelong, self-directed learners, the pressures of testing and the penalties for not reaching the standards set are changing the attitudes of teachers, focusing them more single-mindedly on content acquisition.

What is needed is a balance. Encouraging self-direction does not mean ignoring accountability. Just as self-direction in learning exists along a continuum in each individual, each learning experience offers different levels of opportunity for self-direction (Guglielmino, L., 1978, Brockett & Hiemstra, 1991). Learners benefit greatly from a content base on which to build, but if we allow the learning of content to crowd out time for reflection on learning and exploration of individually-selected topics that create excitement about learning and build skills and attitudes that will support lifelong learning, we will do a disservice to our learners and our cultures. Our times require continuous lifelong learning

and relearning by each individual, and no educational institution or training and development unit can hope to meet the demand of delivering that instruction.

This research is obviously based on a limited sample, and further examination of both historical research and outcomes of currently existing programs designed to promote SDL is merited. A notable resource is the recent book by Posner (2009), *Lives of Passion, School of Hope*, which tracks the lives of students who graduated from such a program. But if evidence and logic suggest that our societies do, in fact, move forward through the efforts of dedicated, self-directed learners, how can we not give attention to developing the complex of skills and attitudes that are foundational to self-direction in learning in our educational institutions, our organizations, and our homes? It is imperative, for both individual and societal benefit, that individuals responsible for education and human resource development incorporate the development of self-directed lifelong learners as a primary aim of their programs. Without such a goal, we will fail to prepare tomorrow's workers and citizens to negotiate a world of complex change, disintegrating institutions, and globalization, much less to develop the innovations that will move our society forward.

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Note: [1] The Self-Directed Learning Readiness Scale is also known as the Learning Preference Assessment (LPA).

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INFLUENCES ON TEACHER PROFESSIONAL GROWTH: SELF-DIRECTED LEARNING AND TEACHER EFFICACY

Barry Rowe

This study examined teachers' levels of teacher efficacy (TE) and readiness for self-directed learning (SDL) through the administration of two quantitative instruments. The research participants were teachers in an Eastern Canadian school district who were field- testing a new teacher performance appraisal process. Relationships between TE and SDL readiness were examined, and implications of the findings and conclusions are explored. Both SDL and TE were determined to have potential impacts on teacher professional learning initiatives. Both constructs offer much information to potential teacher professional development planners and participants.

Teacher learning, teacher professional development and teacher professional growth are terminologies that continue to receive wide attention in educational research literature. Teacher learning has profound effects on all aspects of the educational environment. Clarke and Hollingsworth (2002) suggest that teacher professional growth is "an inevitable and continuing process of learning" (p. 948), but repeated calls have been made by educational policy makers, academics and practitioners for more effective approaches to teacher learning (Bosetti, 1994; Clarke and Hollingsworth, 2002; Corcoran, 1995; Houghton & Goren, 1995).

Effective teacher professional development requires collaboration and stakeholder participation. Lieberman (1995) suggests that a shift in thinking about teacher professional growth is essential before more obvious improvements are attainable and sustainable. She has indicated, "teachers have been told ... that other people's understandings of teaching and learning are more important than their own" (Lieberman, 1995, p. 592). Lieberman extends this premise by indicating that teachers learn differently, and that it is very important for providers and facilitators of teacher professional growth to link individual professional characteristics, needs and learning activities to collegial, communal needs and learning activities. Cousins' (1995) literature review suggested the individual teacher characteristics which influence the teacher performance appraisal process are "the desire for constructive feedback, growth objectives, experience, knowledge of self" (p. 200).

Approaches to Supervision and Teacher Professional Growth

Scholars sharing a neo-progressive perspective have criticized traditional approaches to teacher supervision as giving little impetus for teacher professional growth (Beerens, 2000;

Snow-Gerono, 2008; Tracy & MacNaughton, 1989). Sergiovanni and Starratt (1998) further posit that traditional supervision approaches "represent a minimum commitment to teacher growth and development" (p. 289). Educational research literature is replete with references highlighting the disdain that teachers have for traditional supervision approaches that emphasize teacher evaluation policies and procedures (Beerens, 2000; Duke, 1990, 1993; Duke & Stiggins, 1990; Popham, 1988) rather than a developmental perspective.

Teacher performance appraisal processes have traditionally had two distinct purposes. The first purpose is to enhance teacher professional growth and, by extension, to benefit the entire school milieu. This purpose is collegial in nature, and teachers assume responsibility for their own learning and professional growth (Beerens, 2000; Blase & Blase, 1998, 1999). These professional responsibilities are seen as ongoing and significant. The second purpose of teacher performance appraisal processes, in contrast with the first, is more traditional. Supervisors highlight cause-and-effect relationships with respect to instruction and use this information for such personnel and accountability purposes as staffing, tenure, promotion and/or dismissal (Duke & Stiggins, 1990). This second purpose is hierarchical in nature because supervisors assume responsibility for directing teachers' learning and professional growth (Tracy & MacNaughton, 1989). Despite many efforts, researchers report that in most classrooms, "control supervision still dominates professional practice" (Gordon, 1997, p. 117).

Recent conceptions of instructional supervision, however, emphasize collaborative, developmental and transformative approaches to "helping teachers discover and construct professional knowledge and skills" (Pajak, 1993, p. 318). Zepeda and Ponticell (1998) indicate that teacher ownership of the supervision process appears to increase the teachers' willingness to change. Some researchers now consider teacher supervision and teacher evaluation as best done through a process of teacher performance appraisal for professional growth (Beerens, 2000; Duke, 1990, 1993; Duke & Stiggins, 1990; Snow-Gerono, 2008).

Teacher Efficacy and Teacher Professional Growth

Research evidence suggests that the goals of teacher performance appraisal processes that accent teacher professional growth are dependent on teacher efficacy (TE). TE is "...a self-perception, not an objective measure of teaching effectiveness" (Ross, 1998, p. 49); teachers judge their capabilities in bringing about desired outcomes of student engagement and learning (Tschannen-Moran, 2000). TE has been linked to the goals of instructional experimentation (Allinder, 1994; Guskey, 1984,1988; Ross, 1998; Smylie, 1988), teachers' willingness to implement innovations (Ghaith & Yaghi, 1997; Guskey, 1984, 1988; Ross, 1995; Smylie, 1988), and teachers' goal setting (Ross, 1995, 1998). Teachers having a higher sense of efficacy tend to exhibit greater enthusiasm for teaching (Allinder, 1994; Guskey, 1984, 1988). Ross (1995) states, "High TE teachers are more willing and likely to implement new instructional programs, leading to the acquisition of new teaching skills" (p. 231).

TE levels are related to instructional experimentation, which includes the willingness to try a variety of materials and approaches, the desire to find better ways of teaching and the implementation of progressive and innovative methods of teaching (Allinder, 1994; Fuchs, Fuchs & Bishop, 1992; Ross, 1998). It seems that increased levels of TE lead to a greater willingness to try new methods. The willingness of teachers to implement innovations is also related to TE (Guskey, 1984; Smylie, 1988). Teachers need to see relevance and importance attached to an initiative in order to afford it their concentrated efforts. Fritz et al. (1995) uphold this idea and reference the role of facilitators: "Staff developers need to better understand *personal teaching efficacy* and develop ways to augment a strong sense of efficacy among teachers" (p. 200).

An important objective of teacher professional growth initiatives is to provide an avenue for experimentation with teaching. This is possible during a teacher performance appraisal process which includes regular feedback, particularly if elements of SDL exist. Fritz, Miller-Heyl, Kreutzer and MacPhee (1995) support this idea. They indicate "A boost in one's sense of efficacy increases the effort expended to reach a desired outcome" (Fritz et al., 1995, p. 200). This issue was also referenced in the employee development literature by Noe et al. (1997), when the authors discussed self-efficacy and the impact on employee motivation to learn, to participate in learning activities and to transfer the newly acquired knowledge. The research literature indicates that an increase in the level of TE allows for more self-direction of professional growth activities. It appears that the relationship between TE and SDL is accentuated in discussions involving teacher learning and development.

Although teacher performance appraisal processes are largely self-directed, supervisors and facilitators have a role to play and a better understanding of TE can assist the supervision process. Tschannen-Moran (2000) submits that knowledge of teachers' PTE levels is a clearer indication of teachers' sense of efficacy than is GTE; she suggests that PTE presents a more accurate representation of teachers' efficacy beliefs. An awareness of these TE levels could be of assistance to staff developers. Lee, Dedick and Smith (1991) suggest that principals' knowledge of teachers' PTE and GTE levels could assist in planning for professional growth, and other educational improvement endeavors.

"Teacher efficacy is enhanced when teachers have greater control of their workplace ... when they have opportunities to use their skills" (Ross, 1998, p. 56). Lee, Dedick and Smith (1991) posit that strong principals can enhance TE. "By coordinating, supervising, and rewarding teachers, principals can influence teachers' appraisals of their performance, heighten the exchange of vicarious experience and engage in verbal persuasion" (Ross, 1998, p. 57). These specific attributes play a major role in teacher performance appraisal processes.

Self-Direction in Learning and Teacher Professional Growth

Bell and Gilbert (1996) posit that learning is at the heart of teacher professional growth and the key to being a successful teacher. Teachers do, however, differ in their capacities for learning, their abilities to learn, and in their attitudes towards learning (Bell & Gilbert, 1996; Lovett & Gilmore, 2001). Collaborative teacher performance appraisal processes align well with current concepts of adult learning. Self-directed learning (SDL), a concept associated with adult learning, has been referenced as a process to promote ongoing reflective thought, "with learners expected to assume primary responsibility for their own learning" (Caffarella, 1993, p. 26). Strategies to enhance SDL are consistent with contemporary collaborative models of teacher performance appraisal aimed at teacher professional growth. As Blake et al. (1995) point out: "No matter how teacher performance is appraised, the evaluation that is most meaningful is one that is self-directed" (p. 39).

Early research literature dealing with SDL dates back to the 1960s. Tough (1966) suggested that, while self-teaching implies a degree of independence or autonomy, the learning that occurs through self-teaching does not generally take place in isolation. Also, specific to the idea of non-isolation, Brockett and Hiemstra (1991) state: "Those individuals who engage in self-teaching are highly likely to seek the assistance of others, such as close friends and relatives, subject-matter experts, and fellow learners" (p. 41). In addition, "Learning is cumulative in nature - nothing has meaning or is learned in isolation from prior experience" (Merriam & Caffarella, 1991, p. 171). This is the case in teacher professional growth initiatives. Additionally, Tough (1966) focused on individuals engaged in self-learning projects, or a series of related episodes of learning totaling at least seven hours. He concentrated his efforts on attempting to highlight highly deliberate learning efforts of adults, and on ascertaining the emphasis placed on planning and deciding the various aspects of the learning project. Tough's (1966) most important finding was that the majority of projects in his study (68%) were *planned* by the individual learners themselves (Brockett & Hiemstra, 1991).

The concept of SDL has provoked much debate among adult educators and within the wealth of available research literature on adult learning. Garrison (1997) noted that although the terminology remains worded as "self-directed," "the overriding theme of self-directed learning has been the external management of the learning process" (p. 18). In this instance, the learner "exercises a great deal of independence in deciding what is worthwhile to learn and how to approach the learning task, regardless of entering competencies and contextual contingencies" (p. 18). The learning activity itself appears secondary to the management aspect. He proposes a refined description of SDL: "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes" (p. 18). This refined conceptualization is better aligned with a teacher appraisal and professional development process that emphasizes SDL.

Teacher performance appraisal has become somewhat of an umbrella concept encompassing both teacher professional growth and teacher personnel decisions. In some jurisdictions, teacher performance appraisals have replaced teacher evaluations and have

become an accepted manner in which to make various personnel decisions and, more importantly, to plan for teacher professional growth. Close inspection of the literature reveals little empirical, research-based knowledge about the levels of TE and SDL among teachers and the relationship of TE and SDL. This knowledge is a necessary basis for exploring the influence that TE and SDL may have on teacher performance appraisal processes. Teachers' levels of TE and their levels of readiness for SDL may affect their professional growth experiences in a teacher performance appraisal process that encourages SDL. An exploration of SDL and TE among teachers and the relationship between SDL and TE can help us better understand appropriate approaches to teacher professional growth and development.

PURPOSE

This study was undertaken in one Canadian school district to: (a) determine the levels of teacher efficacy (TE) and self-directed learning readiness (SDLR) among teachers involved in a field test of a new teacher appraisal process; and (b) explore the relationships between TE and SDLR.

RESEARCH DESIGN

This research project is a quantitative study. It was designed to collect assessment data from a group of teachers participating in a field test of a new teacher performance appraisal process within the Northwest School District. Group means were compared across norms, and correlations were explored.

Sample

The Northwest School District was field-testing a new teacher performance appraisal process; this process was more participative in nature. The participants in this research project were teachers involved in this new teacher performance appraisal process. There were a total of ninety-eight (98) participants (42 male and 56 female) representing the 29 schools in the district. Ninety (90) respondents replied (39 male and 51 female). All participants were given a choice to participate in this project or not. Ethical approval was granted from both the university and the school district.

Research Instruments

Two quantitative instruments were administered to all research participants: the Guglielmino (1977) Self-Directed Learning Readiness Scale (SDLRS) and the Gibson and Dembo (1984) Teacher Efficacy (TE) Scale.

Guglielmino (1977) SDLRS
The Guglielmino (1977) SDLRS was developed by Dr. Lucy Guglielmino to measure the attitudes, values and abilities of learners relating to their readiness to engage in self-directed

learning activities. Content validity was established through the use of three-round Delphi panel of experts in order to determine the most prevalent characteristics of self-directed learners. It is a self-report questionnaire with Likert-type items. The SDLRS is designed to measure the complex of attitudes, skill, and characteristics that comprise an individual's current level of readiness to manage his or her own learning (Guglielmino, 2009). It is comprised of 58 items that individuals respond to by choosing between 1 and 5 on a Likert scale.

Guglielmino and Guglielmino (1991) report that, based on a population of 3151 individuals from the United States and Canada, a split-half Pearson product moment correlation with a Spearman-Brown correction produced a reliability coefficient of 0.94. Numerous studies on populations over the age of 20 years have been published with a range of reliability estimates from .72 to .92 (Guglielmino & Gugliemino, 2006).

Gibson and Dembo (1984) TE Scale
The Gibson and Dembo (1984) TE Scale is designed to measure teachers' attitude towards working with students. The self-report questionnaire is designed to take a sample from four broad areas that are said to play important roles in teacher effectiveness: *alignment, inclusivity, organization, and efficacy*. Ross (1995) posits that TE is a multi-dimensional construct, and distinguishes between two types of TE: "*Personal* TE (PTE) is a teacher's expectation that he or she can bring about student learning. *General* TE (GTE) is the belief that teachers are able to do so despite the impact of environmental factors beyond their control" (p. 228).

Both types of TE are referenced in the research literature, and each has relevance to teacher professional growth through teacher performance appraisal processes. Ross (1998) adds further specificity to previous definitions of TE: "Teacher efficacy is a self-perception, not an objective measure of teaching effectiveness. It represents teachers' beliefs that their efforts, individually and collectively, will bring about student learning" (Ross, 1998, pp. 49-50).

A validity study was undertaken to analyse the Gibson & Dembo (1984) TE Scale. Twenty respondents were randomly chosen from the initial 400 participants and were given duplicate surveys approximately two to four weeks after the initial surveys were completed. A response rate of 80% was calculated after the completion of the duplicate survey. Reliability estimates of the Gibson & Dembo (1984) TE Scale have been published ranging from 0.69 to 0.78 for PTE and from 0.55 to 0.75 for GTE. Table 3? provides some examples of these research publications.

Data Collection

Both survey instruments were paper administrations. Teachers were asked to complete these questionnaires during the field test process. This process was voluntary on behalf of the participants and they were informed that they could withdraw from the research project at any time.

Data Analysis

Scores for the Guglielmino (1977) SDLRS were calculated using the proprietary scoring process. The completed paper questionnaires were coded by the researcher and sent to Guglielmino and Associates for statistical analyses. The researcher received a statistical breakdown with explanations. Questionnaire statistics were not tabulated if more than 6 items were missing, and separate questionnaire items that had no response were given a 3 or neutral answer.

The Gibson & Dembo (1984) TE Scale questionnaires were scored by the researcher with a guiding document provided by the authors. As was the case with the Guglielmino (1977) SDLRS instrument, non-answered items were given a neutral response for statistical calculation reasons.

Correlation coefficients were calculated with data from the Gibson and Dembo (1984) TE Scale and the Guglielmino (1977) SDLRS from this research project using SPSS software. Specifically, GTE, PTE and SDLRS scores were cross-correlated.

FINDINGS AND CONCLUSIONS

SDLRS and TE Scores

The results from this research project indicated that participant levels of SDL readiness and TE were comparable to past administrations of both the Guglielmino (1977) SDLRS and the Gibson and Dembo (1984) TE Scale.

SDLRS Mean and Comparisons
As displayed in Table 1, the mean SDLRS score was 240.722, well above the general adult mean of 214. The standard deviation was 20.067, and score range was 87 for this administration of the Guglielmino (1977) SDLRS. The Cronbach-alpha reliability coefficient was .92. Recent administrations of the Guglielmino SDLRS provide mean scores ranging from 214 to 248. Sample means are displayed in Table 2.

Table 1. *Guglielmino (1977) SDLRS: Descriptive Statistics (N = 90)*

Mean (M)	Standard Deviation (SD)	Cronbach Alpha	Range
240.72	20.07	0.92	87

Table 2. *Guglielmino (1977) SDLRS Sample Score Comparisons*

Reference	Mean	SD	Alpha	N	Sample Details
Gibson and Dembo TE Scale Means and Comparisons					
Current Study (Rowe)	240.72	20.07	0.92	98	Teachers participating in school district field-test of new Teacher Performance Appraisal Process
Bulik (1997)	219.99	28.09	N/A	68	Male juvenile offenders
Dodds-Urban	250.28	16.55		37	Teachers involved in school reform initiatives as facilitators or coordinators
Guglielmino (1988)	-	-	0.94	3151	Compilation of respondents to the SDLRS to this date
Guglielmino & Klatt (1994)	248.60	18.70	-	162	Top U. S. entrepreneurs
Koerner (2008)	214.34	-	-	261	Entering college freshmen enrolled in a learning community
	209.34	-	-	264	Entering freshmen not enrolled in a learning community
Guglielmino & Nowocien (1998)	242.89	23.23	-	54	U.S. teachers
	248.90			27	Mentor teachers
	235.52			27	New teachers
Field (1989)	-	-	0.89	N/A	Vocational students
Long and Agyekum (1983)	229.90	21.71	N/A	92	Undergraduate college students
Long and Agyekum (1984)	227.82	24.42	N/A	136	Undergraduate college students
McCune, Guglielmino & Garcia (1990)	227.70	N/A	N/A	4596	Meta-analysis of 35 studies.

For the Gibson and Dembo (1984) TE Scale, the mean PTE score was 40.967, the PTE standard deviation was 4.921, and the PTE range was 27.000. The mean GTE score was 24.867, the GTE standard deviation was 5.230, and the GTE range was 24.000. Measures from recent administrations of the TE Scale range from 23.00 to 39.00 on the Gibson and Dembo (1984) PTE scale, and from 18.000 to 26.000 on the Gibson and Dembo (1984) GTE scale. Cronbach's-alpha reliability coefficients are .76 for the PTE and .68 for the GTE.

Teachers were more inclined to have higher PTE scores than GTE scores, although situations existed where teachers with high TE scores were high in both subscales. This would appear to indicate that they are more certain of their personal, individual efforts towards teaching than the general, overall efforts of teachers as professionals. This aspect is not surprising in that professionals are most sure of their personal efforts regarding career endeavors, and are hesitant to comment for the profession as a whole. Table 3 presents the descriptive statistics for the TE and Table 4 provides comparison data.

Table 3. *Gibson and Dembo (1984) TE Scale Descriptive Statistics (N = 90)*

	Number of Items	*Mean (M)*	*Standard Deviation (SD)*	*Cronbach Alpha*	*Range*
PTE	9	40.97	4.92	0.76	27.00
GTE	7	24.87	5.23	0.68	24.00
Total	16				

Correlations Between SDLRS and TE Scores

A significant correlation of 0.33 exists between SDLRS and PTE. Furthermore, the SDLRS and GTE were significantly correlated at 0.29. The results are displayed in Table 5. These findings indicate that teachers' perceptions of their efficacy are slightly positively correlated to their levels of readiness for SDL. Researchers and theorists have begun to recognize PTE as a more definitive measure providing insight into TE (Tschannen-Moran, 2002, 2003). A critique of PTE has become an accepted manner in which to discuss the effects of TE in the general sense (M. Tschannen-Moran, personal communication, April 2002).

No recognized correlation was found between PTE and GTE. This correlation equated to 0.02 and was indicative of the fact that the two concepts are relatively not connected. This finding is consistent with past research and past correlation coefficients obtained between PTE and GTE. The correlation coefficients of PTE and GTE in past administrations ranged from -0.17 to 0.21, as can be viewed in Table 4.

Table 4. *Teacher Efficacy Score Comparisons With Prior Research Literature*

Literature Reference	PTE (M)	PTE (SD)	PTE (α)	GTE (M)	GTE (SD)	GTE (α)	PTE / GTE (r)
Current Study (Rowe)	40.97	4.92	0.76	24.87	5.23	0.68	0.02
Allinder (1994)	–	–	0.76	–	–	0.56	0.21
Coldarci (1992)	37.12	4.94	0.75	18.31	4.29	0.55	0.07
Fritz et al. (1995)	–	–	0.78	–	–	0.75	-0.17
Ghaith and Yaghi (1997)	–	–	–	–	–	–	0.08
Ghaith and Shaaban (1999)	26.42	8.60	0.78	25.41	9.59	0.75	-0.03
Gibson and Dembo (1984)	–	–	0.78	–	–	0.75	0.15
Hoy and Woolfolk (1993)	23.38	3.62	0.77	19.12	4.96	0.72	0.07
Podell and Soodak (1993)	–	–	0.75	–	–	0.65	-0.07
Ross (1992)	39.20	4.96	0.69	26.20	5.61	0.73	0.23
Soodak and Podell (1993)	34.47	5.43	0.76	25.64	5.62	0.70	0.24

Table 5. *Correlation Coefficients of SDLRS, GTE, and PTE.* (N = 90)

Variable	GTE*	PTE* `	SDLRS*
GTE	–	0.02	0.29
PTE		–	0.33
SDLRS			–

$p \leq .05$

IMPLICATIONS

Teachers' SDL readiness levels are valuable for professional development planning and facilitation. SDL readiness is sometimes an unrecognized and unconscious attribute of

teachers as professionals. With the variety and number of learning activities they lead, this characteristic is accepted and expected within the profession. Although they do not always consider pedagogical preparation as learning, and do not always consider their planning for teaching as a self-directed activity, teachers, by the simple nature of their profession, consistently prepare and design their day's activities. This professional responsibility highlights attributes of self-initiating and self-starting.

Many references in recent research literature have accentuated the need and desire for teacher professional growth opportunities to be self-directed and to take into account the needs of the participants themselves. (See for e.g., Blase & Blase, 1998 & 1999; and Guskey, 1997) However, little empirical evidence links SDL and TE in this manner. That is, the influences on teacher professional growth experiences have not been accentuated. The relationship between SDL and TE, particularly PTE, can also assist educational practitioners in elucidating the importance of ongoing, sustained efforts to improve teacher professional growth opportunities and experiences. Tschannen-Moran (2002, 2003) indicates that PTE is more of a determinant to teachers' sense of efficacy than is GTE (M. Tschannen-Moran, personal communication, April 2002 & March 2003).

The participants in this research project scored high and above average in the Guglielmino (1977) SDLRS. Other studies of teachers (for example, Dodds-Urban, 2000; Guglielmino & Nowocien, 1998) have reported similar results. It appears that teachers possess high levels of self-directed learning readiness as a result of their chosen profession. They must be self-initiators every day, they must prepare for learning every day, and they must be prepared to learn (as well as teach) every day.

The extent to which readiness for SDL and TE have a noticeable effect on teachers' professional growth experiences in a process that encourages SDL merits further investigation. The literature has suggested that both TE and SDL could influence teacher professional growth experiences. The results of this study indicate that teachers have above-average levels of readiness for self-direction in learning and that SDLR and TE are related. Future research possibilities include closer investigations of teachers in professional growth and professional development settings. An empirical study of the relationship between teacher success in professional development initiatives, their TE scores, and their levels of readiness for self-directed learning would assist both policy makers and facilitators of teacher professional growth. Conversely, a case study of those resistant teachers and their levels of SDL readiness or TE may provide direction to school and school district personnel wishing to promote life-long learning amongst educators.

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AN AGENTIC PERSPECTIVE OF SELF-DIRECTED LEARNING AS APPLIED TO CHILDREN

Michael K. Ponton, Christine T. Schuette, and Gary J. Confessore

Ponton (2009) presented an agentive perspective of self-directed learning (SDL) as contrasted to autonomous learning in order to provide a heuristic position by suggesting that whereas autonomous learning can be manifest in all three modes of agency (i.e., individual, proxy, or collective; Bandura, 2006b) in the activation of learning activities, SDL represents the degree to which personal agency is exercised individually. Ponton concluded that both the process and personality perspectives categorized by Oddi (1987) and Merriam and Caffarella (1999) are important to defining SDL and that SDL activities are those in which the learner individually directs the creation of associated self-regulatory processes as outlined by Zimmerman, Bonner, and Kovach (1996). Even though much of SDL research and theorizing rests within the domain of adult learning, this article argues that the agentive perspective posited by Ponton is equally applicable to children.

The exercise of intentionality, or agency, in personal learning can occur at every age level provided the agent has developed sufficiently both physiologically and cognitively to proactively initiate interaction with the environment and engage in sense making. Ponton's (2009) notion of self-directed learning (SDL)—"the degree to which personal agency is exercised individually by directing the creation of… [learning] activities"—is thus equally applicable to children as it is to adults provided the former have developed sufficiently to exercise agentive learning. All of the associated constructs within a sociocognitive framework are salient in both understanding and facilitating self-directedness regardless of the learner's age.

However, this does not mean that the specific enactment of a child's self-directed learning is the same as for an adult. For children, (a) limited experiences provide limited information upon which to build percepts of personal capability for SDL (i.e., self-efficacy for SDL), (b) fewer personal resources create both situational and structural impediments to the exercise of self-directedness, (c) compulsory education provides experiences that can foster either self-directedness or dependence upon others for personal learning, and (d) requirements of a general education reduce opportunities to exercise personal agency in learning. Whereas the theoretical underpinnings of salient constructs are independent of age, developmental trajectories do influence how these constructs reveal themselves and impact the exercise of personal agency.

The purpose of this paper is to offer an agentive perspective of self-directed learning for children. Using extant theories of agency (Bandura, 2006b) that include motivation and self-efficacy consistent with social cognitive theory (Bandura, 1986), this paper will present a framework for understanding the occurrence of SDL among children as well as provide suggestions for the further development of SDL during formal or informal tuition. Part of the suggested facilitation process will be the role of autonomous learning as a mediating construct between dependent learning and SDL.

SOCIAL COGNITIVE THEORY

Social Cognitive Theory (SCT; Bandura, 1986) posits an agentive view of human behavior in which intentional, purposeful action is guided by thought processes within the context of objective and subjective environments. This interactive notion of human functioning is referred to in SCT as triadic reciprocal causation and represents bidirectional influences between three constituent factors: person (i.e., biological, cognitive, affective, and conative aspects), behaviors, and environment. This model of reciprocal determinism rejects radical notions of behaviorism and cognitivism that discount the role of thinking and the environment, respectively. (Note that "determinism" is used to describe a determining influence rather than an assurance of predictability.)

Thus, SCT adopts an emergent interactive view of personal agency rather than a mechanistic (i.e., behaviorist) or autonomous (i.e., cognitivist) perspective (Bandura, 1989) thereby describing human functioning as emerging from the following bidirectional interactions: (a) person/environment – people cognitively interpret the environment and create attitudes and conations with respect to environmental factors whereas the environment catalyzes internal thought processes by providing limitations and opportunities for personal agency, (b) person/behavior – internal personal factors drive behavior whereas the results of behavior provide feedback for self-reflection, and (c) behavior/environment – behaviors shape the environment whereas the environment provides an objective field in which to perform. Because of the explicit role of the person, human functioning cannot be predicted with certainty in a given scenario as it is dependent upon not only any objective facets of the situation but also the ideated, subjective context that is person and time dependent.

SCT recognizes the environment as taking three forms: imposed, selected, and created (Bandura, 1997). There are many aspects of our environment that are imposed upon us; however, this imposition can still be cognitively appraised thereby leading to the development of conative determinations. Additionally, the environment offers a multitude of potentialities from which individuals select facets thereby creating personal—and actual—environments. Finally, people can create environments that would not otherwise exist. Reciprocal determinism creates the opportunity for these three environmental forms—imposed, selected, and created—to exist and represent increases in personal agency (i.e., moving from an imposed to a created environment requires a greater degree of agency).

Humans are equipped with essential forms of cognitive functions that drive purposeful action (Bandura, 1986). By creating symbolic mental images, people can engage in forethought in which expectations of future events lead to the creation of goals and subsequent courses of action. Expectations and their correlations to individual activity are developed via vicarious learning and self-reflection of the results from previous action. Self-regulation is enlisted to reactively and proactively direct action toward desired ends.

AGENCY AND SELF-EFFICACY

Personal agency refers to acts done intentionally and is exercised whenever one engages in the following: intentionality, forethought, self-regulation, and self-reflection (Bandura, 2006b). An agentive view of human functioning rejects the perspective of people as mere reactors to environmental inducements for action. Instead, humans are capable of purposeful, proactive, intentional action toward personally desired ends. Using forethought, people make appraisals as to which courses of action will lead to desirable outcomes and establish performance goals that correspond to these ends (cf. expectancy value theory and goal theory; Bandura, 1997). Thus, behaviors are enlisted intentionally to accomplish personal goals, and self-regulation is invoked to volitionally induce goal-directed action or modify courses of action when they are self-reflectively deemed as ineffective. As a means of sense making, self-reflection is the mechanism through which the agent cognitively interprets information that informs decision making and future courses of action.

There is a difference between personal agency and the manner in which it is exercised. Personal agency can be exercised in three various modes: collective, proxy, and individual (Bandura, 2006b). Collective agency is exercised when an individual enlists a group of others to work with the agent in support of personal performance goals. Proxy agency occurs when individual agents influence "others who have the resources, knowledge, and means to act on their behalf to secure the outcomes they desire" (Bandura, 2006b, p. 165). Lastly, personal agency exercised individually describes the situation in which the agent acts alone to accomplish personally satisfying ends. However, in all three modes of agency, personal agency is still exercised provided the agent proactively catalyzes action with or without the help of others or uses others to provide proxy action for personal functioning in support of accomplishing the agent's desired outcomes. Personal agency also encompasses self-regulatory thought and action with subsequent reflection used to scrutinize behavioral consequences.

A major determinant of the exercise of personal agency is one's perception of personal ability, which Bandura (1997) terms self-efficacy. "Unless people believe they can produce desired effects by their actions, they have little incentive to act or to persevere in the face of difficulties. Perceived efficacy is, therefore, the foundation of human agency" (Bussey & Bandura, 1999, p. 691). It is the self-reflective capability of humans that determines the strength of efficacy beliefs as efficacy strength is based upon subjective appraisals from the following sources of information: mastery experiences, vicarious experiences, verbal

persuasions, and physiological/emotive arousals. This information is used to make individual determinations of the degree to which one is capable of successfully executing a course of action in the face of impediments. "Perceived self-efficacy is conceptualized as perceived operative capability. It is concerned not with what one has [in terms of a repertoire of rudimentary skills] but with belief in what one can do with whatever resources one can muster [all italics in original]" (Bandura, 2007, p. 646).

Mastery experiences provide the most authentic indication of personal capability; that is, an agent should deem him or herself capable of successfully executing a course of action when that same agent had previously done so in the past. Mastery experiences strengthen efficacy when previous successes are attributed to personal capability rather than to a facilitative environment (e.g., help from others). Individuals also appraise their capability by observing others deemed as similar to themselves (i.e., vicarious experiences); the greater the similarity, the greater the likelihood that observational modeling will strengthen efficacy beliefs. Verbal assurances of requisite capability from respected referents also provide persuasive indicants of personal ability (i.e., verbal persuasion). Finally, physiological and affective arousals from engaging in an activity can strengthen efficacy if subjectively associated with expanding capability or weaken efficacy if interpreted as a lack of capability. In these varied forms of efficacy information, it is the self-reflective agent who interprets the information thereby resulting in an individual determination of efficacy strength; self-efficacy is not an objective assessment of actual capability.

AUTONOMOUS LEARNING VIS-À-VIS SDL

In 1999, Ponton defined autonomous learning as "an agentive learning process in which the conative factors of desire, initiative, resourcefulness, and persistence are manifest" (p. xiii). The term "agentive" is important because it recognizes autonomous learning as "purposeful, intentional learning" (Ponton & Rhea, 2006, p. 45) and a means to achieve personally satisfying ends. However, the focus of autonomous learning on desire, initiative, resourcefulness, and persistence limited its description to a "psychological conceptualization" (Long, 1989, p. 9) of learning. While such personality perspectives are important to the larger field of self-directed learning, Ponton (2009) asserted that SDL must also involve the process perspective consistent with Oddi (1987) and Merriam and Caffarella (1999). Ponton (2009) provided an argument that this is essential in not only differentiating autonomous learning from SDL but also in understanding the implications with respect to agency theory.

The autonomous learner can exhibit the conative factors of desire (Meyer, 2001), resourcefulness (Carr, 1999), initiative (Ponton, 1999), and persistence (Derrick, 2001) in all three environmental forms (i.e., imposed, selected, and created) recognized by SCT (Ponton, 2009). That is, the autonomous learner can proactively and intentionally (a) engage in sense making from an imposed environment, (b) select an aspect of the environment (e.g., register for a course), or (c) create an entirely new learning activity to accomplish personal learning goals. Note that even the creation of a "new" learning activity

can involve resources created by others ("there is no absolute agency"; Bandura, 2006b, p. 164); however, creating an environment should involve a distinct transformation into something that would not have otherwise existed. For a learning activity, this would involve all aspects of the traditionally defined self-regulatory (and self-directed) processes of self-evaluation (i.e., needs assessment), goal setting, planning, monitoring progress, and activity adjustments as necessary (cf. Knowles, 1975; Oddi, 1987; Zimmerman & Cleary, 2006; Zimmerman, Bonner, & Kovach, 1996).

However, the "creation" of a learning activity can be exercised through all three modes of personal agency (i.e., collective, proxy, and individual; Ponton, 2009). When an agent decides that a learning activity is needed in order to accomplish a desired outcome, the agent can (a) enlist the assistance of others to work collectively in the creation of an activity, (b) enlist the assistance of others to create an activity without the agent's assistance, or (c) create the activity individually without anyone's assistance. Ponton (2009) asserted that autonomous learning can be manifest through all modes of personal agency; however, SDL requires that the individual mode of agency be used to perform associated facets of the self-regulatory learning cycle.

CHILDREN VIS-À-VIS ADULTS

All humans—children or adults—can be described in a superordinate way via the same theories of behavior. Reciprocal determinism and personal agency do not become relevant at a particular age or stage of development. Even in the earliest months of existence, infants exert proxy agency when they proactively cry out for the efforts of others in their environment to satisfy personal needs (Choonara, 1999) and exert goal-directed personal agency when they select facets of the environment upon which to visually focus, cognitively appraise, and make behavioral adjustments (Butterworth, 1992; Meltzoff & Moore, 1997); research cited in Wellman and Gelman (1992) suggests that infants as young as 3-4 months can select anomalous facets of the environment upon which to focus extended attention. However, to assert that children are the same as adults would be a gross minimization of developmental processes. While value systems, efficacy appraisals, and impediments to proactivity exert their influences to both groups, nevertheless specific values, efficacy appraisals, and impediments to agency vary greatly by the accumulation of experiences and subsequent self-reflection through experience dependent cognitive filters. Reciprocal determinism recognizes the salient interacting factors (i.e., person, environment, and behavior) to human functioning and the individualized, varied role of each.

"The newborn arrives without any sense of selfhood and personal agency" (Bandura, 2006b, p. 169). Because self-efficacy uses self-reflection to build its strength, limited experiences yield limited information upon which to build efficacy beliefs. Without mastery experiences, role models, persuasive encouragement from referents representing expert assessments, or somatic feedback interpreted from a growth perspective, a child has little reason to feel competent in particular courses of action. However, physiological development soon provides infants with the capability to transition from observers to

producers of environmental happenings. When children interpret themselves as the cause of environmental changes, a sense of agency begins to develop (Bandura, 2006b). In time, the varied sources of efficacy information emerge and are used by the agent in fomenting efficacy appraisals. In fact, as efficacy beliefs are strengthened, disconfirming evidence of ability from additional experiences can even be cognitively discounted (Bandura, 1997).

Developmental trajectories require a consideration as to role of the changing self in social settings (Elder, 1994). All people—adults and children—engage in psychosocial interactions that affect the development and preservation of personal identity. However, children must also learn the rudiments of social interactions, manage hormonal changes with behavior in light of peer pressures, and scrutinize novel options (e.g., sex, drugs, and alcohol) with respect to an evolving personal value system interacting with social mores. The ability to successfully manage all of these situations and many more to achieve a healthy and productive lifestyle requires a strong sense of domain specific self-efficacy for overcoming structural and situational obstacles.

SDL AND CHILDREN

With respect to structural obstacles to agentive learning, children have far fewer resources under their volitional control than do adults. A child generally does not have the option of (a) driving to—and perhaps paying for—a learning activity of personal interest, (b) spending all "free" time on personal learning as homework from compulsory education is required, and (c) deciding what to study in formal tuition because the curriculum of a general education permeates much of their education. Of course agency is certainly exercised when children—much to the chagrin of parents and teachers—pursue personal learning at the expense of learning mandated by adults.

The lack of personal resources at a child's disposal does limit the varied options to which self-directed learning can be manifest. That is, the exertion of personal agency to create a learning activity individually is affected by the subjective or objective resources at one's disposal. However, this does not mean that self-directed learning cannot occur in some form. For example, the child who decides to (a) learn about penguins (i.e., needs assessment), (b) read a book about penguins (i.e., goal setting), (c) pick a book from the bookshelf at home to read during the evening (i.e., planning), and (d) evaluates the level of personal satisfaction from the reading and decides whether or not to read a different book (i.e., activity adjustment) is engaging in self-directed learning. Reading the book is a learning activity that would not have otherwise existed had the child not created it intentionally, proactively, and individually. In addition, the activity would not reach a level of personal satisfaction had the child not evaluated the personal learning individually and exerted agency in modifying the activity as necessary.

SCT recognizes that self-inefficacy provides a psychological impediment to performance in addition to situational (e.g., illness) and structural obstacles (Bandura, 1997). The creation of a learning activity with an anticipated level of success requires the agent to believe that

he or she is capable of doing so. As already mentioned, as compared to adults children have far fewer experiences regarding the manifestation of personally satisfying self-directed learning to base efficacy assessments upon; therefore, their motivation to engage in self-directed learning is greatly diminished unless they believe they are able to exert such control to achieve desirable outcomes.

DEVELOPMENT OF SDL IN CHILDREN

A neonate enters the world with a vast but unrealized ontogenetic potentiality to acquire knowledge and skills in all the varied trajectories that life can offer; that is, "a biological potentialist view [vs. a biological deterministic view] of human nature emphasizes human possibilities" (Bandura, 2001, p. 21). Even monozygotic twins become dissimilar with age due to unique interactions with individualized environments (McCartney, Bernieri, & Harris, 1990). In the beginning, infants are vastly limited in the degree to which they can exert personal agency in affecting their environments; however, research (cf. Leslie, 1987) has revealed that infants as young as 18 months have exerted personal agency in the individual creation of pretend play scenarios in which they purposefully are "acting as if" rather than "acting in error" in the use of available resources (Leslie, p. 413).

Like pretend play, self-directed learning can also emerge with little facilitation from others. However, the spectrum of activities that constitute "learning activities" varies greatly. As already posited, planning, choosing, enacting, and evaluating the learning from reading a single book on penguins is an exhibition of personal agency through the individual mode. Similarly, the planning, choosing, enacting, and evaluating the learning from reading a collection of books and articles on penguins, traveling to Antarctica to observe them, discerning the coincidence between what has been written and what is found experientially, and continuing this process until personal satisfaction is achieved is also "a" learning activity. Developing in children the cognitive and metacognitive processes (cf. Glaubman, Glaubman, & Ofir, 2001; Szente, 2007) to exert personal agency in self-directed learning and a sophisticated repertoire of potential learning strategies from which to choose enables them to exert proactive growth along chosen trajectories. Because children participate in compulsory education, society has the opportunity to facilitate development to this end. As Bandura (2006a) asserts,

> A major goal of formal education is to equip students with the intellectual tools, self-beliefs, and self-regulatory capabilities to educate themselves throughout their lifetime. The rapid pace of technological change and accelerated growth of knowledge are placing a premium on capability for self-directed learning. (p. 10)

This should also be the goal of informal tuition outside of school. Fostering self-directedness begins with fostering autonomy. Exhibiting desire, resourcefulness, initiative, and persistence in one's learning through all modes of personal agency is a necessary first step toward self-directed learning. For children, this initially means exhibiting the learner

autonomy to seek out an adult's assistance and work collectively to learn something of personal value (i.e., collective agency). Later such autonomy is manifest when the child asks an adult to help him or her gather a learning resource (i.e., proxy agency). Finally, the child exerts the highest form of agency in a manifest self-directed learning activity when he or she autonomously exerts personal agency in individually self-regulating associated facets of the learning activity from conceptualization through enactment to evaluation. Ponton and Carr (2000) discuss in detail the various facets of autonomy and methods of promotion to inform the development of autonomous learning conation.

However, a child will not engage in either autonomous or self-directed learning unless requisite levels of efficacy exist. Such efficacy can exist at various levels of participation. For example, without a sense of collective efficacy a child will not seek out the help of others who the child feels are incapable of assistance. Thus, to promote collective efficacy and a willingness of the child to seek out assistance from a particular person (e.g., a parent) that person must attend to the four sources of efficacy information already discussed to facilitate the development of collective efficacy. That is, successful learning must be attributed to this particular group's effort, expressions of collective capability must be verbalized, an understanding that successful adult/child learning activities are typical of others, and stressors must be interpreted as indicants of an emergent group capability. When this occurs, the child is more likely to seek out this person for future collective learning due to a sense of collective efficacy. Proxy efficacy is built in a similar manner. A child must believe that the proxy is capable of creating a satisfying learning activity. Such efficacy is built upon attending to the same sources of efficacy information but now conceptualized to the proxy mode of personal agency.

Self-efficacy is important whether personal agency in autonomous learning is exercised collectively or by proxy. A child must believe that requisite capability exists to enlist the help of others. It would be difficult to imagine asking someone for help when that person has been unwilling to provide any in the past. Therefore, to foster a child's self-efficacy for autonomous learning adults need to provide the level of assistance requested by the child. That is, the child's agency must be developed by the adult responding to the child's requests and not imposing learning activities beyond this.

At the highest level of personal agency in one's learning resides self-directed learning. It is at this stage of development that the agent believes requisite capability exists to autonomously (i.e., show desire, resourcefulness, initiative, and persistence) and individually regulate associated aspects of the learning activity. To foster self-efficacy for self-directed learning, children must be (a) provided opportunities to enact mastery experiences of the entire self-regulatory learning cycle at appropriate levels of challenge, thereby strengthening beliefs in expanding personal capabilities; (b) persuaded by valued others that the capability to succeed in mastery experiences are present; (c) given successful models that highlight similarities thereby supporting the notion of "if that person like me can master this experience, I can too"; and (d) guided in interpreting physiological or emotive arousals from enactive mastery experiences not as indicants of incapability but rather as natural responses to novel pursuits. While similar efficacy building strategies can

and should be used for academic self-efficacy (cf. Margolis & McCabe, 2003), the focus of self-efficacy for SDL is with respect to an exertion of personal agency in learning through individual efforts; thus, mastery experiences should be provided accordingly (cf. Bandura & Schunk, 1981).

However, self-efficacy is not merely a possession of abilities but rather is a strength of assurance that successful execution can be performed in light of situational demands (Bandura, 2007; see also Ponton, Derrick, Hall, Rhea, & Carr, 2005, for an application of this principle to the measure of self-efficacy for autonomous learning). This brings to light the important construct of resourcefulness and its role in autonomous learning (Ponton, Carr, & Derrick, 2004; Ponton, Derrick, & Carr, 2005). Based upon the work of Rosenbaum (1989) regarding the repertoire of self-control skills needed to manage stressful situations, Carr (1999) conceptualized learner resourcefulness in a similar manner. Fostering self-efficacy for self-directed learning must include the development of the cognitive strategies associated with autonomous learning and not just the self-regulatory skills associated with process management.

Self-efficacy is a domain-specific construct; therefore, one may not feel equally efficacious in engaging in self-directed learning for every conceivable topic of interest. Reciprocal determinism posits that personological factors will bi-directionally interact with both the real and imagined environment as well as with behaviors thereby leading to a development of the unique person; thus, no two people are identical in all domains of self-efficacy or any other constellation of psychological constructs. However, formal and informal tuition should work diligently to provide children with the opportunities to enhance their efficacy for self-directed learning by facilitating the pursuit of personal learning spawned by either compulsory education or outside interests. In this manner, children are empowered to leave formal education with the self-directedness to exert personal agency in fulfilling chosen aspirations via independent learning. Efforts to this end are not new (cf. Scardamalia & Bereiter, 1991) but must be pervasive and considered a worthwhile investment of the academic day; as Biemiller and Meichenbaum (1992) so aptly state, "students might be exposed to fewer subjects [in school] but would be truly able to use what skills they have for purposes they value" (p. 79).

However, other benefits associated with a strong belief in academic and self-regulatory efficacy (i.e., perceived ability to master academic activities and self-regulate personal learning) are realized even before graduation. Based upon research, Bandura (1993) asserts the following:

> Children who have a high sense of academic and self-regulative efficacy behave more prosocially, are more popular, and experience less rejection by their peers than do children who believe they lack these forms of academic efficacy…. Moreover, a low sense of academic and self-regulatory efficacy is associated with emotional irascibility, physical and verbal aggression, and ready disengagement of moral self-sanctions from harmful conduct. (p. 138)

Thus the empowerment provided by a strong sense of personal efficacy for learning can manifest itself in the exercise of control over other important spheres of human functioning.

Children receive efficacy information from homes, schools, and other social environments (Schunk & Meece, 2006); thus, an important area of attention in the facilitation of self-efficacy for SDL in children is the self-efficacy of others to do so. Parents, teachers, and school staff must believe themselves capable of successfully creating facilitative opportunities for children to develop in this manner. This begins first by social change agents (e.g., policy makers) convincing these persons that self-efficacy for SDL is an important educational objective followed by the learning of efficacy building strategies with attention to the four sources of efficacy information. Without a strong sense of efficacy to create such environments, the motivation to do so will wane. Professionally trained educators may have to take a lead role in the education of parents in this regard.

CONCLUDING REMARKS

Just as with adults, children are capable of exerting personal agency in their various spheres of activities. It is the responsibility of adults to strengthen children's beliefs in their personal efficacy to exert agentive influence over their lives in positive, health promoting ways. Agentive learning should be included as a developmental focus as it is through such learning that an individual can decide how he or she wants to fulfill personal aspirations throughout the lifespan when the influence of childhood adults is diminished.

Building children's self-efficacy for SDL requires not only attention to process perspectives associated with the self-regulatory cycle of individually identifying needs, developing plans, proactively engaging in learning, evaluating feedback, and developing corrective strategies but also attention to the conative factors of desire, resourcefulness, initiative, and persistence. In addition, parents, teachers, and institutional staff must also possess the requisite efficacy to promote children's self-efficacy for SDL. Educational policy makers play a crucial role in providing the opportunity for all stakeholders to break the bonds of dependency on institutions for personal learning thereby permitting children to develop into adults who are empowered to enact personal change through self-directed learning.

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SELF-DIRECTED LEARNING AND LEADING AMONG MANAGERS AND EXECUTIVES OF NON-PROFIT ORGANIZATIONS

Peter L. Zsiga, Terry Liddell, and Kenneth Muller

This article reviews the results of three studies of non-profit leaders and managers in order to distill approaches to leadership development within this sector. Among the findings are positive correlations between self-directed learning readiness and emotional intelligence as well as self-directed learning readiness and strategic thinking. One of the studies outlines strategies for self-directed learning at the executive level. This research-to-practice review offers recommendations for leadership development strategies that could be offered in a variety of settings.

The non-profit sector is a significant part of the nation's economy and service distribution. However, there is little reported about the leadership development of managers and executives in this sector. Leadership development in non-profit organizations is influenced by the changing environment of the 21st century with forces of globalization, technology advancement, and economic forces, including the most recent crisis.

Non-Profit Organizations

The non-profit sector of our economy, also known as the volunteer sector or the independent sector, includes health, human services, arts, faith-based, and education organizations that harness public and private funds to offer services that may not be viable in the commercial (or for-profit) sector. Non-profits generate over eight percent of wages and salaries (billions in revenue) or just over five percent of the gross domestic product in the United States (Urban Institute, 2007). The non-profit sector employs more than the finance, insurance, and real estate industries combined. Non-profits represent a wide range of organizations ranging from local, single-purpose agencies to large multi-purpose agencies affiliated with national or international groups to foundations with philanthropic purposes. What distinguishes non-profits is the volunteer board that is accountable to the community as well as state and federal regulation rather than stockholders.

New regulatory and funding demands require higher outcome-based performance and greater financial accountability. Drucker (1990) noted the importance of non-profits being mission driven and the critical relationships among staff, board, volunteers, and the community in non-profit hospitals, churches, health, community services, schools, universities, foundations, and other charitable and service groups. Leadership development in non-profit organizations has been influenced by the changing environment of the 21st century with the forces of globalization, technology innovations, regulatory changes, and

the changing economy. Crutchfield and McCleod-Grant (2007) outlined the requirements for creating high-impact non-profits based on their study of 12 diverse organizations.

Self-Directed Learning

Self-directed learning, as defined by Knowles (1975), is "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 18). Earlier research on self-directed learning in the workplace and among corporate executives suggests that self-directed learning is a critical characteristic of effective behavior in times of change. Guglielmino and Guglielmino (1994) reported three studies with large employee samples from AT&T, Hong Kong Telephone and Motorola, noting a significant positive relationship between performance ratings and scores on a measure of readiness for self-directed learning. Guglielmino and Klatt (1994) assessed the self-directed learning readiness of a sample of 162 top entrepreneurs and concluded that entrepreneurs had extremely high scores, the highest mean until that time. Guglielmino (1996) assessed 19 female executives (vice president or higher) with over 10 years of management experience and found that the mean score (257.8) was "significantly higher than the mean score of any other sample" (p. 19). These research studies provide evidence that readiness for self-directed learning is associated with successful performance in business and industry. The current research brief examines the self-directed learning of executives of three different types of non-profits and implications for non-profit executive development practices.

PROBLEM STATEMENT

Non-profits have always represented creative and imaginative solutions to human needs: in health and human services, or in the spiritual and cultural needs for education, inspiration, and gathering that faith-based organizations, educational institutions, and arts organizations provide. Non-profits rely on funding from government, corporate donations, foundation-based philanthropy, private donors, and fees. Fees usually only cover a portion of the cost of the services and the difference must be made up through donations.

Structural changes in private and governmental funding sources, policies and priorities can adversely affect non-profits with a concentrated program focus or single purpose (McClusky, 2002). The double jeopardy for these agencies is that in the current fiscal situation, financial reserves and resources are declining just as constituent needs and requests for services are increasing. The global financial crisis of 2008 and 2009 in the securities, banking, and insurance industries as well as major frauds have destabilized the financial foundations of most non-profits. Many foundations have had to reduce or eliminate giving recently as a result of losing assets that were invested in failing financial institutions or fraudulent fund management accounts.

There is also a leadership crisis which requires attention to leadership development in non-profits as well as the necessity for non-profits to become learning organizations. Performing the delicate dance of adapting quickly and effectively elevates the degree of preparation and organization necessary for achievement. Ellinger (2006) suggests morphing organizations into effective learning systems that continually adapt to their environments. This transformation requires a transition in the role of the leader to emphasize developing and coaching the learning capacities of all parts of the organization. At the same time, adult education, training and development departments, and human resource development programs in both the for-profit and non-profit organizations are not currently fully positioned to emphasize the acquisition and application of needed skills. Universities with programs (either degree or certificate) in non-profit management reflect mixed results for the presence of self-directed learning in course descriptions. There is a need to infuse the development of self-directed learning into executive development programs for non-profit organizations.

POPULATION/SAMPLE

This research to practice brief analyzes three studies of non-profit leaders representing three different non-profit populations. One study (Muller, 2007) investigated the relationship between self-directed learning and emotional intelligence among 109 managers and supervisors from a community based healthcare system in South Florida. Another (Zsiga, 2007) assessed the self-directed learning readiness and leader effectiveness of 471 Young Men's Christian Association (YMCA) directors from across the country. The third study (Liddell, 2007) examined the self-directed learning strategies of 22 women who lead philanthropic organizations in South Florida and Western Washington State. All participants in the studies were leaders in a non-profit setting in varied locations and types of non-profit organizations including healthcare, a multipurpose organization with national support, and foundations.

INSTRUMENTATION

The instruments used in the studies included the Learning Preference Assessment (also known as the Self-Directed Learning Readiness Scale), the Emotional Quotient Inventory (EQ-i), the Strategic Thinking Questionnaire (STQ), performance evaluations (a measure of leader effectiveness), and an interview protocol.

Self-directed learning was measured by the Self-Directed Learning Readiness Scale (SDLRS, Guglielmino, 1977). In use, the SDLRS is also known as the Learning Preference Assessment in order not to suggest self-directed learning to participants. The SDLRS is a widely-used, 58-item, five-point Likert scale instrument that measures a total score for self-directed learning readiness. Delahaye and Choy (2000) confirm the internal consistency and test-retest reliability values, as well as content, construct, and criterion-related validity.

The Emotional Quotient Inventory (EQ-i, Bar-On, 1997), also a five-point Likert scale developed by Bar-On based on Goleman's (1995) theories. The EQi is a widely-used instrument normed with a North American sample of 3,831 persons. Bar-On (in Geher & Renstrom, 2004) and McEnrue and Groves (2006) attest to the construct, convergent, discriminant, factorial, and predictive validity of the instrument.

The Strategic Thinking Questionnaire (STQ) is a relatively new instrument designed to measure the cognitive processes of leaders. It consists of subscales which measure skills in the areas of reframing, reflecting, and systems thinking. Strategic thinking requires holistic thinking, reframing of situations and perspectives, and developing mental frameworks and theories to apply to solve complex problems (Pisapia, Reyes-Guerra, D., & Coukos-Semmel, 2005). Pisapia, Reyes-Guerra, and Coukos-Semmel (2005), Pang and Pisapia (2007), and Pisapia, Pang, Hee, Lin, and Morris (2008) attest to the internal and construct validity of the STQ.

Two studies also used a self-report of recent annual performance evaluations. The interview protocol used in the qualitative study included questions to collect descriptive data (both demographic information and organizational information) as well as questions to promote discussion of the development of the executives, and did not include any questions specific to self-directed learning. The interview protocol consisted of seven open-ended questions to explore the views of participants on challenges, leadership style, pivotal life experiences, influential people, informal learning, and specific learning methods.

PROCEDURES

Each study was reviewed for findings for critical characteristics to management or executive personnel and for recommendations for development of executives or managers in non-profit organizations. One of the most significant items was to assess if there was a pattern of self-directed learning among the managers and executives studied. Then the studies were reviewed for other executive or managerial characteristics necessary for effectiveness in their roles. Lastly, the studies were reviewed to find recommendations for the practice of management or executive development within the non-profit sector.

MAJOR FINDINGS

The three studies support the critical role of self-directed learning among leaders in non-profit organizations. The studies also yield findings about other characteristics of the leaders of non-profit organizations.

Ninety one percent of the sample of 22 women executives of foundations reflected high (50%) or above average (41%) readiness for self-directed learning. The mean score of this sample was 248.2 (above average). The mean for this sample was lower than mean found by Guglielmino (1996) when studying top female corporate executives (267.8), but is in

line with the scores of top male entrepreneurs (248.6, Guglielmino & Guglielmino, 1994). The scores appeared to be positively related to education; the higher the score, the more likely the participant had an advanced degree. The scores were negatively related to tenure on the job; those with lower scores stayed at the same job longer. The scores did not appear related to age, budget size, or geographic location.

The mean score of managers from a non-profit medical corporation was 243.64, which is above the national average, and just below the average of top male entrepreneurs reported above. The mean score of the 595 YMCA directors was 236.1, (above average). Table 1 provides a description of the samples and their self-directed learning readiness scores.

Table 1. *Demographic Representation of the Three Samples*

Demographic	Female Foundation Executives	Medical Supervisors and Managers	YMCA Directors
Sample Size	22	99	595
Mean Age	51.9	46.6	41.8
Female/Male Ratio	100/0	21/79	344/251
Mean Tenure	6.9 years	> 15 years	5 to 9
Mean SDLRS Score	248.2	243.6	236.1
Budget Range	200K to 40M*	N/A	1-4M
Staffing Range	1 to 27*	N/A	6 to 10
Mean Education Level	Bachelors	N/A	Bachelors

*The distribution budgets of the foundations ranged from $200,000 distributed annually to over $40,000,000 with one outlier of inordinate means that went beyond that. The staffing ranged from a part-time executive to a larger community foundation with a staff of 27 to a very large family foundation with a staff of over 300.

In the qualitative grounded theory study, it was noted that while every participant talked about learning by doing, what they actually did when confronted with new challenges or novel situations was to initiate conversations with a variety of sources depending upon the nature of the problem. After several stages of coding, the theory derived was that facing new challenges within their organizations or in the environment, experienced women executives convene conversations with colleagues, board members, staff, and others to learn what they need to know to lead. Through the conversations they gather information (both facts and opinions); explore ideas, perspectives, and options; and build consensus. The consequence of this learning strategy is that they extend their knowledge, skills, understanding, wisdom, accomplishment, influence, credibility and future opportunities as well as survive the challenges.

In the quantitative studies, the researchers found high correlations between self-directed learning readiness and emotional intelligence and strategic thinking. The correlation between self-directed learning readiness and strategic thinking was robust ($r = .58$, $p <.001$). From the sample tested, it appears that it is difficult for someone to be a self-directed learner without also using strategic thinking strategies or to be a strategic thinker

without exhibiting self-directed learning skills. The correlation between self-directed learning readiness and emotional intelligence as measured by the Emotional Quotient Inventory was also high and both statistically and practically significant (r =.59, p<.01). It must be noted that there are similar items in all three measures. There was less correlation between self-directed learning and other measures of performance or leader effectiveness.

CONCLUSIONS AND RECOMMENDATIONS

The finding that leaders in all three studies were self-directed learners is consistent with the findings of the literature on executives in the for-profit sector. These studies add the insight that at least for these samples there correlations between self-directed learning and other attributes of successful leaders, such as emotional intelligence and strategic thinking. One study also concludes that women executives use informal conversation to forward their self-directed learning. There is also evidence in the literature that conversation is useful to male executives as noted by high tech and marketing gurus (Levine, Locke, Searls, & Weinberger, 2000) who stated "conversation forms the basis of business" (p. v).

Implications for Education, Training and Human Resource Development

While these studies do not represent a broad enough range of nonprofits or large enough members to be widely generated, their measures do suggest possible future directions for the preparation of nonprofit executives. As training departments close down within organizations, university programs and creative human resource strategies, as well as the role of professional associations become more critical. Straka (1999) considers the application of self-organized learning activities to be as important as training events and programs developed by employers. Showing curiosity, willingness to question personal assumptions, using self-reflection, and seeing learning experiences as opportunities to increase competence are behaviors and attitudes related to effectiveness (Trautman, 2007). Behaviors and characteristics which support lifelong learning include taking risks, trying new things, self-reflection, listening, gathering and being open to new ideas and information (Kotter, 1996).

These behaviors and characteristics are used to describe self-directed learners, emotionally intelligent adults, and strategic thinkers. Investment in the development of self-directed learners may begin to take the place of traditional training and development when it comes to leadership development.

Executive development and support programs could use workplace challenges as a laboratory for learning and engage participants in conversations that are reflective, generative, and interpretive to foster the conceptual development necessary to navigate challenges. Conversations could be supported or sponsored by associations (local and national) or informally organized by groups of colleagues. Universities could host these conversations in the form of colloquia for non-profit executives and managers that extend their current diploma or certificate programs in non-profit management.

Educators in academic and corporate settings can enhance personal leadership development through philosophical and structural revisions to training and development curricula to enhance the development of characteristics and skills related to self-directed learning, emotional intelligence, and strategic thinking. Preparing current and future leaders to create organizations which are conducive to learning and development and the retention of talented adult learners enhances performance of individuals and organizations (Ellinger, 2006).

Management and executive recruitment strategies could specify some mastery of self-directed learning, emotional intelligence and strategic thinking. Seeking help from others and sharing knowledge is foundational, although counterintuitive to the old competitive model within organizations, and must be encouraged.

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