

Paper Title: Educational systems leadership: Creating coherence or contestation?

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Abstract

International research data unambiguously highlights not only the growing culture of stress in educational leadership but also the increasing disinterest for educational leadership positions amongst suitable aspirants. In response, educational systems worldwide have revised and enhanced their educational leadership professional development programs believing that improved knowledge and skills in both the existing and future educational leader will greatly redress these serious issues. But, is this initiative sufficient? Are the educational systems, themselves, partly to blame? Through the formal performance expectation and accountability procedures imposed on its school leaders, do educational systems unwittingly create contestation rather than coherence between the system and its school leaders? If the norms and values of the system, itself, is a significant contributor towards causing the stress in its school leaders and the disinterest in potential school leaders, then no amount of professional development of such personnel will really overcome the current untenable problems. This paper compares and contrasts the role of the school leader from an educational and a system perspective and, thereby, highlights the deepening divide between what is being asked of school leaders and what they can actually and preferably do. Hence, it is argued that a change in educational systems towards a more coherent, educationally aligned and supportive organisational culture and not additional professional development programs will be far more beneficial in not only reducing the unacceptable levels of stress in current school leaders but it will make the attainment of such positions far more attractive to suitable aspirants.

Introduction

The moral purpose of each and every school is to continually strive to enhance the learning of its students. Consequently, the fundamental role for any principal must be to ensure that this moral purpose is achieved. Thus, the prime focus of the principal must be on the academic, personal and social advancement of the students in his or her school. Much of what the principal does should, in some way, contribute towards facilitating an improvement in student achievement. For, as Robertson (2006, p.4) so stridently advocates:

The skills, attitudes, values, knowledge and practices that tomorrow's young people will need, should be at the core of decision-making as schools move towards being more creative and responsive in facilitating education of students today.

Despite any perceived sense in recent years that their managerial role has expanded and intensified to the detriment of their educational leadership role, research data confirms that having a positive impact on the learning of the students within their school can never become a vicarious responsibility. This reality is reflected in the rapidly growing expectations and pressures being placed on principals to improve school, teacher and student performances. Moreover, these expectations and pressures are increasingly being turned into formal accountabilities.

Indisputably, quality teaching is the most critical factor in improving student learning. In his international meta-analytic studies, Professor John Hattie (2003) found that the influence of the classroom teacher accounted for about 30% of the variance in student achievement. Understandably then, there has been much focus on finding ways to improve the quality of teaching over the past two decades. However, such ways are neither clear nor simple.

Arguably, there are four reasons why, to date, no universal solution has been devised that will automatically bring about quality teaching. First, as was found by Berliner (2004), it takes time, learning and effort to develop from a novice to an expert teacher, and not every teacher is able to attain the level of quality aligned with being an expert teacher. Secondly, there is a high degree of specificity in teaching. In other words, there is a contextual dimension in teaching. An expert teacher in one school won't necessarily be an expert teacher in another school. The act of teaching evolves out of the needs of the students and these needs vary greatly between schools. Thirdly, teaching is an embodied and not a mechanistic activity. One's way of teaching is a complex mixture of practice and personality (Sachs, 2003). Teaching combines one's being with approved professional activities. Thus, practices that appear as quality teaching by one teacher may not be directly transferable to another teacher due to their different personalities. The second teacher may not feel comfortable committing their self to such practices such that, if encouraged to do so, would most likely fail to achieve the same perceived level of quality teaching because their commitment to the practices is compromised. Finally, pedagogy is not a static phenomenon. What is considered to be the ideal pedagogy plays a critical role in how we judge quality teaching. During the past two decades, the pedagogical foundation for quality teaching has evolved from constructivism through constructionism, critical theory, cultural theory, and emergent theory (Davis, Sumara, & Luce-Kapler, 2000). In other words, what was deemed to be quality teaching 10 years ago may now be considered to be grossly deficient because it would have been formed from a constructivist rather than an emergent pedagogy.

Quality teaching is a fluid, complex, and idiosyncratic talent rather than a static, unambiguous, and generalisable skill. Thus, the expected principal's task of developing the capacity of each and every teacher in their school to provide quality teaching is, by nature, a very contentious, onerous, problematic, complicated, and multifarious responsibility. Surely this is a contributing factor in why principals are sensing they have diminished real influence (Chapman, 2005) in the face of a growing burden of accountability (Fiore, 2002; James & Whiting, 1998; Neidhart & Carlin, 2003; Pounder, Galvin, & Shepherd, 2003; Quinn, 2002).

Yet, there is more to the influential role of the principal upon the learning achievements of the students than simply their capacity to develop quality teaching amongst their staff. When reviewing the literature on leadership and school achievement, Leithwood, Louis, Anderson, and Wahlstrom (2004, p.5) found that “the total (direct and indirect) effects of leadership on student learning account for about a quarter of total school effects” on the level of student achievement. Furthermore, these authors propose that:

1. The nature of the principal’s leadership is second only to the quality of classroom teaching among all school-related factors that contribute to what students learn at school; and
2. The principal’s leadership effects are usually largest where and when they are needed most [i.e., in the most disadvantaged schools].

There is much more to the principal’s beneficial influence on student achievement than meets the eye. Dinham’s (2009) research confirms the view that the principal plays a very substantial role in creating the conditions in which teachers can teach effectively and students can learn. This does not just mean the physical conditions, the facilities and equipment, but also the cultural conditions, the interpersonal relationships and openness of communications. Furthermore, Jan Robertson (2006) draws our attention to the significant place of the indirect influence in the principal’s role. She argues that:

If we want students to be responsible citizens, critical and creative thinkers, self-directed learners, collaborative team players and effective communicators – and all the other things national and school policies ask for the world over – then their leaders must model these in their practices. (p.5)

Jerry Starratt (2005, p.410) echoes this argument in his claim that;

Those who would lead in collaboration with teachers in cultivating the many dialogical relationships implied in [quality teaching] will need to nurture those virtues of presence, authenticity, and responsibility in themselves, not only as adult models for the students, but in all the organizational support activities they engage in to make learning come alive for their young charges.

What is being proposed by these and other authors is that it is not only ‘what’ the principal does but also ‘how’ the principal does it that contributes significantly to the learning achievement of the students. If we want principals to maximise their beneficial influence on student achievement then they will not only have to model contemporary pedagogical practice in how they continually learn new knowledge, skills and practices, but also they will need to explicitly model the skills, practices and interpersonal relationships that young people will need in their future lives.

Hence, if our focus is on learning how to be leaders of learning then these insights highlight three inescapable areas of concern. First, if it is essential for principals to be able to develop quality teaching underpinned by contemporary pedagogical theory and model these pedagogical practices in how they continually learn new knowledge, skills and practices, then they must be fully cognisant of the nature and practices associated with such contemporary pedagogical theory. Secondly, if it is essential for principals to be able to explicitly model the skills, practices and interpersonal relationships that young people will need in their future lives, then we must examine how this would impact on the principal’s general leadership practices. Thirdly, it must be realised that principals do not work in a vacuum. While principals can influence the learning environment within their school they, themselves, are influenced by the organisational or systemic environment in which they work. Most schools are a part of some form of a system whereby the nature, function, and order of priority of their activities are directly influenced by a centralised authority. As defined (James, Connolly, Dunning, & Elliott, 2007, p.574), “systemic leadership encapsulates those systemic influences and the authorization of schools and those who lead them.” Moreover, through its mandated authority, made manifest in standardising policies, procedures, expectations and accountabilities, such systemic leadership is able to authorise, endorse, sanction or legitimate the actions of each principal in each of the system’s schools. Logically then, if we want to maximise the principal’s beneficial influence on the students’ achievement then it is absolutely essential that the expectations placed upon the principal by their system leadership actually supports rather than compromises the principal’s commitment to nurturing and modelling the skills, practices and interpersonal relationships that young people will

need in their future lives. This is about creating coherence throughout the whole educational system – from the student to the system leader; a coherence which is logical and obligatory and, thus, legitimate and laudable. A coherence that binds each part of the system – student, teacher, principal, and systemic leadership – to the same moral purpose of providing the best learning opportunity for each student.

This, then, is the purpose of this paper. First, this paper will explore what is happening in the field of contemporary pedagogical theory so as to understand not only what is being promoted as good practice but also why it is being promoted. It is essential to understand why certain pedagogies are more favourably promoted because it not only improves subsequent teaching methods but it also aids authenticity in modelling. Then, secondly, this paper will apply this deeper pedagogical understanding to the theory and practice of leadership by the principal so as to reinforce processes and practices that are deemed to provide the greatest guidance and benefit. Finally, this paper will use understandings gained from this analysis to describe the most supportive and enabling system leadership for ensuring that the principal is fully able to maximise their beneficial influence on student achievement.

Pedagogical Developments

Simultaneously, as society has wanted more from schooling, the art of schooling has become more uncertain. For hundreds of years, the practice of teaching was largely unexplored and ignored and, thus, an understanding of the nature of learning was deemed unnecessary and of little benefit. However, the past 30 has witnessed an ever increasing expectation of what schooling should achieve – of what the students should learn from their formal education. Moreover, as the foundation of society has become more globalised during this time, these expectations have changed, as well. Expectations aligned with equity and socialisation have been replaced with expectations associated with elitism and work readiness; making sure that the more able students are made ready to provide the nation with a competitive advantage in the global marketplace and that there is an ample pool of relevantly skilled workers to do the subsequent required work.

But, as these expectations have grown and changed, there has been a corresponding change in understandings about the nature of learning as well. As society has raised questions about what knowledge and skills our students should be gaining from their schooling, psychologists and educationists have been raising questions about what is the best way for the students to learn such knowledge and skills. Simply put, as expectations of schooling have grown and changed, our pedagogical theories have grown and changed, too.

According to Davis, Sumara, and Luce-Kapler (2000), through most of the 20th century education was predominantly influenced by correspondence pedagogical theories, namely behaviourism and mentalism. Behaviourism focuses on measurable physical actions and learning is about developing predetermined understandings and practical skills. On the other hand, mentalism draws concern towards how the mind works such that learning is a matter of assembling an inner representation, or mental model, of the external world. Although each of these appears radically different, they both assume that the measure of learning is the fidelity of the match, or correspondence, between the student's internalised understanding and the perceived static, predictable, and describable external reality around them. Both of these theories view the mind and reality as two separate entities that can be only linked productively together by the mind gaining an accurate and complete image of the reality.

However, the latter half of the 20th century saw the growth of coherence pedagogical theories, which reject the assumption that there are distinctions between reality and mind. These theories are focused on the manner in which students must cohere, or be compatible, with their reality in order for their reality to remain viable. For instance, constructivist theories tend to be concerned with the sense that individuals make of the world. Here, the aim of education is to provide students with experiences that challenge and enlarge their understandings. On the other hand, constructionist theories are concerned more with interpersonal dynamics and collective activity than with personal constructs. In this case,

the student's mind is understood not as an individual possession but as a product of shared human interest that arises in an environment that is both social and physical. Learning is understood in terms of explicating how claims come to be seen as facts and truths. Meanwhile, cultural and critical theories of learning are principally concerned with deeply entrenched habits of interpretation and implicit associations that support social constructions of gender, race, class, sexuality, ability, disability, opportunity, and so on. Consequently, it is argued that learning should render explicit the cultural conditions that delimit possible worlds and acceptable identities. Finally, ecological theories tend to regard humanity as one species among many in a grand web of relations. Learning in this context is guided by understanding more deeply how learning occurs in the ongoing co-evolutions of other species and habitats.

Of late, pedagogical understandings based upon complexity or emergent theory have evolved. As explained by Plowman, Solansky, Beck, Baker, Kulkarni, and Travis (2007), complexity theory originally developed in the physical sciences where scientists were attempting to understand the complexity of nature, and increasingly found linear models to be ineffective in capturing the complex and emergent nature of phenomenon. Observing that emergence and continual creativity exist throughout nature gave rise to the identification of common characteristics of such complex adaptive systems. Some of the characteristics of complex adaptive systems include:

- (1) they are made up of many parts that act and interact with each other in unpredictable ways,
- (2) they are sensitive to changes in initial conditions,
- (3) they adjust their behaviour in the aggregate to their environment in unpredictable ways,
- (4) they oscillate between stability and instability, and
- (5) they produce emergent actions when approaching disequilibrium.

Additionally, complex systems are described as being dynamic and non-linear, and rarely explained by simple cause-effect relationships.

In essence, complexity theory helps us to understand how something that is composed from infinitely different components can not only act as a singular, unified whole but also how it can readily adjust, evolve and survive despite the constant impact of considerable change forces. Moreover, that such adjustment, evolution and survival happens through small and unpredictable alterations and transformations that occur randomly in individual components.

These principles of emergence hold in a wide variety of different situations, and have been examined in fields ranging from physics and biology to psychology and animal behaviour. Importantly, the classroom readily lends itself to be described and understood through the application of complexity theory. Each and every person within the classroom is, by genetics and personal history of lived experiences, unique and different. Yet, the formation of the class group automatically combines together a certain number of such uniquely idiosyncratic identities. However, although this class as a single group can be easily identified, delineating and controlling its breadth and range of activities and interactions is humanly impossible. It is completely inconceivable to believe that every thought, action, and interaction of each and every student and teacher in the class could be predicted and controlled for every moment of every day. Despite this, the class can act as one and the individual thoughts, actions, and interactions of each student and the teacher can influence the learning outcomes of their self and others. All of these normal classroom characteristics confirm its suitability to be considered in terms of complexity theory.

In other words, complexity theory can be used to help us review our pedagogical understandings. In so doing, it challenges us to think about learning not in terms of carefully pre-planned, highly structured, largely teacher directed, learning experiences but rather with an understanding that, due to the complex nature of the classroom environment, quality student learning has a high probability of arising out of the bi-directional interactions of autonomous, somewhat randomly behaving, students (Dalke, Cassidy, Grobstein, & Blank, 2007). To put it differently, complexity theory promotes the view that highly structured learning experiences are not the only conceivable form of quality teaching.

Indeed, it may be neither necessary nor preferable given that the complex interactive classroom environment can achieve substantial levels of learning and student growth without the continual direction and influence of the teacher. As argued by Dalke and colleagues (2007, p.127),

The compelling argument for emergent pedagogy is that all the individuals in the classroom are themselves emergent systems, designed to explore, and designed – if one direction of investigation fails – to back up and try a different direction.

Another important contribution of complexity theory to pedagogy is the way it broadens the lens to include the group level. When we think only in terms of enhancing student's ability to think independently, the focus of the teacher and students tends to become narrowed to individual achievement. Recognising that growth and change occur because of interactions among each person in the classroom highlights the importance of supporting the free contact amongst everyone, and of nurturing overall healthy group dynamics. Students need these interactions to provide experiences, viewpoints and stories alternative to their own, which will enable them to alter their individual beliefs, attitudes, values, understandings and behaviours in new ways. Conceptualising the classroom environment in terms of emergent thinking highlights its inherent social nature, and invites us to attend to the role of the group in individual performance, as well as to the contributions individuals can and should make to learning of each and every other person in the classroom, including the teacher. Furthermore, the depth and breadth of social interactions increases the possibility that unexpected and creative learning experiences will surface.

Hence, a pedagogy influenced by complexity theory encourages our students to see themselves in the classroom as “the creative shapers of their own life” (Dalke, Cassidy, Grobstein, & Blank, 2007, p.128). But, it also encourages teachers to see themselves as creative shapers, too. In the fundamentally interactive learning environment of the classroom, the teacher's primary task is not to progressively conceive and implement new or individualised learning experiences. Instead, the teacher's distinctive role is to create the kind of rich environment within which productive learning can emerge from the interactions of all the students, the teacher, and others that may become in contact with the class. The teacher has the additional task of encouraging, facilitating and nudging a process of emergent learning and helping to assure that it evolves in directions that are engaging and productive for all. Finally, the teacher is the major synthesizer, translator, reflector and communicator, the one who has primary responsibility for making classroom activities visible and meaningful to all. The responsibility of the teacher is to create a rich environment so that multiple learning experiences are always available, to function as a node for sharing information among the students so that they are aware of such learning experiences, and to summarise and describe the variety of insights students bring to their work so that all can learn, grow and develop together.

As described, complexity theory does not suggest that teachers are irrelevant in an emergent classroom, nor that emergent pedagogy makes teachers indistinguishable from students. Nor does it promote a lack of teacher preparation or inattention to other responsibilities of teaching. Rather, it fosters the belief that the demands on the teacher may actually be greater in an emergent classroom than they currently are (Dalke, Cassidy, Grobstein, & Blank, 2007). Adequate teacher preparation requires anticipation of a wide range of possible directions. Implementation requires close on-going interaction with students, as well as a substantial degree of flexibility. On the other hand, taking emergence as the norm, rather than as something to be fought against, offers teachers, themselves, the opportunity to participate in and enjoy the extraordinarily rich and generative capabilities of a self-directed but group orientated system of learning. Planning then becomes a process of imagining experiences and facilitating interactions that will lead to relevant, but to some extent unknown, outcomes. It involves being fully cognisant of the different pedagogical perspectives, each of which can be used to challenge and deepen the students thinking and learning. The classroom thus becomes a place for discovery not only by students, but by teachers, and others who may come in contact with the classroom activities, as well. Most importantly, teachers become role models for the kinds of inquiry in which we want our students themselves to be engaged.

Finally, complexity theory proposes that we leave behind our dualistic view of our world associated with right/wrong, good/bad type thinking. Rather than looking for the best pedagogical understanding, complexity theory recommends the simultaneous consideration of all theories; there is no one best theory as each theory is able to provide a unique and beneficial source of valid knowledge. Learning is considered to be “a trans-phenomenon and, as such, requires a trans-disciplinary” (Davis, Sumara, & Luce-Kapler, 2000, p.110) experience; learning simultaneously affects and is affected by many overlapping, intertwining, and nested learning experiences such that all of our previously devised pedagogies have the potential to challenge any simplistic or superficial exploration of a chosen reality.

Why does pedagogy need to change?

Now, before describing a particular complexity theory based pedagogy in more detail, there are important questions to consider. Why search for a more appropriate pedagogy? What is so important about understanding student learning better? Why do we need to think about how we teach? Why should we have to change how we teach?

A simple answer to these questions is captured in this sentence from the poem, *The Rock*, by T. S. Eliot: “Where is the wisdom we have lost in knowledge?” The traditional premise is that knowledge is not just something that one gains; its gaining affects what one does. There is an assumed bond between knowledge and behaviour. This assumption is at the heart of Starratt’s (2005, p.400) claim that “learning, that is, the gaining of knowledge, can be and, furthermore, ought to be a moral activity as well as an intellectual activity.” He went on to add:

While preparation for participation in the workforce is one important goal in education, it is by no means the only goal. In societies dedicated to human rights and civil liberties schools are meant to help young people grow toward a fuller humanity, to develop ... human capabilities.

In other words, learning should transform the learner in some way (Kalantzis & Cope, 2005). The learning process should extend the learner beyond their ‘comfort zone’ so that they can achieve personal and cultural transformation. This means that we need to actually engage with difference, with different stories, with different life-worlds, and with different gifts, talents, and interests, and thereby, lead to the students experiencing being a little unsettled. Research data shows that unsettlement and uncertainty induces motivation and inspiration in students to individually search for personal growth and development – learning – that will help them to re-establish a sense of stability, purpose, and meaning (Rennie, 2009; Somerville & Perkins, 2005).

But this assumed link between increased knowledge and improved moral behaviour is now under serious threat (Branson, 2009, 2010). Modern information technologies are not only expanding the size of our pool of human knowledge at an unbelievably rapid rate but also it is providing students with incredibly easy access to all this knowledge. Yet concern is mounting about diminishing ethical and moral standards amid our younger generations. Individualism, egoism, racism, narcissism and vigilantism seem to be more commonly reflected in the behaviour of our young people despite their access to, and digestion of, unequalled levels of knowledge. Consequently, now many educational theorists (Craft, Gardner, & Claxton, 2008; Flowers, 2003; Pantzar, 2000; Rowley, 2006; Sternberg, 2005; Sternberg & Jordan, 2005) are calling for the consideration of wisdom, rather than knowledge, as the ultimate outcome of learning. Simply defined, wisdom is the “critical ability to use knowledge in a constructive way” (Mathews, 1998, p.209).

Rowley (2006) forcefully asserts that our past fascination with knowledge has focussed too strongly on our maximising knowledge and knowledge access and sharing, while insufficiently focussed on how we make the choice of what knowledge to select, apply and keep. In response, Bierly and colleagues (2000, p.597) add that while a “broad knowledge base may be needed to understand, interpret and integrate information, the actual process of making the decision and acting requires the simplification and synthesis of information and knowledge. This process of simplifying, evaluating and synthesising knowledge requires judgement. This judging, selecting and applying specific knowledge for a specific context requires wisdom. Such wisdom relates to the ability of the person to

effectively choose and apply the appropriate knowledge in a given situation.” Thus, the fundamental goal of contemporary pedagogy is that learning should produce wisdom. Contemporary classroom learning should enable each student to be much better at simplifying, evaluating and synthesising all the knowledge they access so that they can apply it far more effectively and constructively. In this way, the student’s learning involves both mental and moral development such that they not only gain an intelligibility of their world but also they gain a deeper awareness of and commitment to their personal responsibility to care for the well-being of others and their world (Starratt, 2009).

In essence, learning is both an individual and a social construct; it is both self, mental, and other, moral, orientated. It involves learning about the world through being fully a part of the world. This is a view of student learning as the opportunity to clarify and liberate individual talents so as to create a more optimistic, unified and productive future for all.

Emergent Pedagogy and the Gaining of Wisdom

How is it possible to achieve such a desirable outcome? Many contemporary educationalists argue that emergent pedagogy provides the means. In accordance with emergent theory (see for instance Anderson, 1999; Chiles, Meyer, & Hench, 2004; Plowman, Solansky, Beck, Baker, Kulkarni, & Travis., 2007) the classroom is clearly a nested, self-organising system since both individual and group learning emerges because of interactions among each and every person who is actively involved in the class. Such nested self-organisation is a fundamental aspect of complex emergent systems. As described by Plowman, et al. (2007, p.343), “in self-organizing systems, order comes from the actions of interdependent agents who exchange information, take actions, and continuously adapt to feedback about others’ actions rather than from the imposition of an overall plan by a central authority.”

What might an emergent theory supported pedagogy look like? One such pedagogy rapidly gaining increased support around the world is that of enactivism (Davis, 1996; Fenwick, 2000; Menary, 2006; Thompson, 2005). Enactivism gains its name from the views on the nature of human cognition posited by Varela, Thompson, and Rosch (1993, p.9).

We propose as a name, enactive, to emphasize the growing conviction that cognition is not the representation of a pre-given world by a pre-given mind but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs.

As explained by Davis (1996, p.11), this means that “human cognition is not to be found in the Rationalist ‘I think’ nor in the Empiricist ‘I observe’ – both of which are founded on the premise of the detached knower – but in the Enactivist ‘I act’. Acting encompasses both thought and observation; acting presumes both actor (subject) and acted upon (object). In brief, acting demands reunions of mind and body and subject and object. It is this notion of embodied action that allows us to bypass the extreme positions of cognition as either recovering what is outer or projecting what is inner without seeking recourse in the supernatural or in metaphysics.” Coming to know and understand something is not conceived as being the transmission of information into the mind of the student but rather, as each student’s exploration of their world by various means. Knowing and understanding are not tied into the workings of an ‘inner mind’, some cognitive core, but occur in directed interaction between the student, others, and the world he or she inhabits. In other words, “learning is a skill not about learning the relevant facts about the environment, but is about learning to control the dynamics of our relationship with that environment” (McGann & Torrance, 2005, p.185).

Guided by Fenwick’s (2000, p.263) description, the teacher in an enactivist learning environment has four essential roles. The first role is as a communicator, assisting the student to name what is unfolding around them and inside them, to challenge the student’s current thinking so as to unsettle them, to continually rename any changing patterns of thinking, and to unlock any limiting past understandings and restrictive and destructive habits that inhibits new learning. Second the teacher is to play the role of a story maker to help trace, and meaningfully record, the learnings gained from the many interactions of the people and objects in the student’s life. The third role played by the teacher is

that of an interpreter. As an interpreter, the teacher helps the student to make sense of the patterns emerging among the complex inter-relationships and networks within the classroom as well as helping the student to more fully understand and appreciate their own involvement in these patterns. The final role played by the teacher is to be a credible role model of a dedicated self-reflective life-long enactive learner. The teacher needs to model being willing and able to acknowledge their knowledge and skill limitations and to being open to learning from others regardless of who they might be. Together, each of these roles of the teacher provides each student, and the class as a whole, with the most appropriate opportunity, flexibility, motivation, sensitivity, and insight for ensuring that they can successfully become self-organised and self-motivated learners. Moreover, it frees them to become morally responsible learners; learners who are committed to using newly acquired knowledge for the common good.

For a teacher to implement such a radically different learning environment would be a huge challenge in itself, but to try to do it in a non-conducive school environment would be nigh impossible. In other words, if quality learning mandates a complexity theory inspired pedagogy, then it is obligatory that the principal strives to ensure that the school's culture is able to support and nurture it. In other words, such a new pedagogical imperative has a direct impact upon the nature and function of the principal's leadership.

The reality versus the research of principal leadership

Clearly, the educational world of teaching and learning has changed irrevocably. Political, community and pedagogical expectations have transformed teaching. No longer are teachers able to solely rely upon personal experiences and past practices to guide their teaching. As pedagogy and accountabilities evolve so, too, must the professional learning of each teacher. Moreover, it behoves the principal to ensure that this occurs. As the educational leader of the school, the responsibility must surely fall upon the shoulders of the principal for assuring that each and every teacher is not only aware of the ever changing nature of pedagogical theory and professional accountabilities but is striving in their own way to inculcate these into their everyday teaching practices?

Indeed, there is widespread research data in support of this point of view (Blackmore, 2004; Gurr, Drysdale & Mulford, 2006; Hallinger & Heck, 1998; Leithwood & Day, 2007; Leithwood, Day, Sammons, Harris, & Hopkins, 2006; Leithwood, Seashore Louis, Anderson & Wahlstrom, 2004; Levin & Fulan, 2008; Mulford & Silins, 2003). Here, Leithwood, Seashore Louis, Anderson and Wahlstrom (2004) examined all of the existing research data that focused on the factors that positively influences student learning and concluded that school leadership is second in strength only to classroom instruction. Although the relationship between the principal and the students is essentially indirect, it still forms a highly significant influence and one that should never be ignored nor inadvertently diminished.

Subsequent research has added detail and insight into the nature of the principal's indirect influence upon the quality of student learning within their school. Although limited in its scope to only United Kingdom and United States schools, it remains of interest to note that the 2006 research of Leithwood, Day, Sammons, Harris, and Hopkins determined that the form of leadership that positively affects student learning involves the work of the principal in building a school-wide vision and setting direction, understanding and developing people, redesigning the organisation so as to build a community perspective, and closely managing the teaching and learning program. Despite its contextual limitations, these findings were subsequently supported in the very large multinational research of Leithwood and Day (2007) that found the principal's most influential leadership characteristics upon student learning included having:

- widespread interpersonal relationships built upon a strong foundation of trust
- concern for ensuring there was a safe environment
- clearly articulated core values
- context-sensitive improvement plans, established trust

- visibility in the school
- direct or indirect influence upon the instructional program
- productive coalitions beyond the school context

Here in Australia, the research of Gurr, Drysdale and Mulford (2006) complimented these international findings. Specifically, these researchers found that the school principal positively influences the learning of each student by ensuring that:

- teaching and learning closely mirrors their own professional values and vision
- all school activities are influenced by an agreed school vision
- their own leadership reflects a transformational style such that it willingly incorporates individual support and commitment to others, critical reflection, and the modelling of appropriate values, beliefs, and behaviours
- their primary focus is on increasing the school's capacity across the four dimensions of personal, professional, organisational, and community functioning
- the local school context strongly influences all work within the school
- evidence-based monitoring and critical reflection is used to guide change and transformation

What all this research data emphasises is that school principals fulfil their critically important role in advancing student learning in three ways. First, the principal needs to be actively involved in the development of the best pedagogical practices by each and every teacher. Secondly, the principal needs to model those professional values and principles that underpin quality learning and teaching practices in all that they do. Finally, the principal needs to closely focus all of the learning and teaching activities upon the specific nature and needs of their own particular school.

Moreover, these principalship responsibilities implied by the research are now being transformed into practical expectations in some countries. In Australia, as highlighted by Starr (2009), a number of government and non-government educational systems are introducing leadership frameworks. These frameworks present standards or capability statements to guide the work and professional learning of principals. "These latest reforms demand that principals keep oversight of improvements in teaching and learning. As such, these reforms indicate that policymakers recognise, in principle at least, that the principal's focus should be on leading teaching and learning and not on management." (p.22) Herein, Starr has simply but forcefully raised the highly conflicting, if not antithetical, leadership responsibilities of the principal in being required to be, both, the educational leader and school site manager.

As the school site manager, the role of the school principal is now akin to that of a Chief Executive Officer within a business or industrial organisational context. As such, it includes the seemingly ever increasing responsibilities associated with the management of the school's strategic planning, of overseeing the school's multi-million dollar budget, of attending to the school's industrial relations obligations, of suitably maintaining the school's facilities and resources, of fulfilling the executive officer's role on the school's Board of Management or governing body, of addressing the school's marketing and public relations needs, and of ensuring that everyone within the school community adheres to its legal and workplace health and safety requirements. All this coming on top of the previously describe principal's supposedly core business of striving to constantly improve the school's teaching and learning environment. Moreover, according to Starr (2009, p.22), "in essence, school leadership has been hijacked by management tasks" because the role of the principal, by pure practical necessity, now regularly entails less professional responsibility "and more external control, accountability, regulation and mandatory compliance." The reality of the school leader does not match the research-promoted role description.

Thus, Starr's warning about the introduction of leadership frameworks is prophetic: "Without a significant reduction in managerial responsibilities to counter balance these professional expectations, these reforms could further contribute to issues of leadership disengagement." (p.22) She is not condemning such frameworks. Rather, she is highlighting that their inherent goodness – the

clarification and accentuation of the essential educational leadership role of the school principal – may not only be lost amid the principal’s burgeoning managerial responsibilities but also it might actually erode people’s interest in fulfilling this pivotal role.

This would be especially so if further research data associated with the pervasive use of nationalised student testing programs is taken into consideration as well. According to Hargreaves (2009), in most of the Anglo-American group of nations, the last 10 years have been marked by a growing number of countries introducing high-stakes and large-scale national student testing programs and the subsequent test results being publicly used to compare and contrast school performances. Despite strong opposition from educational professionals, governments from various liberal and conservative persuasions have embraced these standardisation practices into their educational systems. Hence, often teachers are the extremely reluctant facilitators of these testing regimes. Moreover, the school principals have to not only manage the logistical implications associated with the rigorous testing procedures but also they have to manage the potentially negative emotional response engendered by the process amongst their teachers, and perhaps their local community.

To add to this complex milieu is recent research evidence clearly showing that the educational outcomes produced by these rigorous and regular national testing procedures in fact cannot develop the essential student learning that is now required for redressing our current global economic crisis (Hargreaves, 2009). What our international financial crisis has unequivocally shown us is that the development of creativity and innovation within our students is far more important than discipline-based skills and knowledge. More specifically, Hargreaves points out that sufficient research into the effects of these national testing programs is now able to show that:

- UK and US, the most assessment-obsessed nations, rank last and next last on UNICEF’s (2007) 21-country list of child wellbeing.
- Research by Cambridge University (BBC, 2009) concludes that England’s reform directions have stripped innovation, creativity and the most basic needs of child exploration and development out of children’s curriculum as all of the teachers’ energy has been targeted towards government tests.
- The ironic effect of the international spread of high-stakes testing is that it has exposed how the countries and systems that have actually been most successful educationally and economically are ones that do not have a nationalised testing program but rather provide greater flexibility and innovation in teaching and learning, that invest greater trust in their teachers, that value curriculum breadth, and that do not try to orchestrate everything tightly from the top down. For instance,
 - High performing Singapore emphasises “Teach Less, Learn More” and mandates 10% “white space” for teachers to bring individual initiative and creativity into their teaching
 - Finland, the world leader on results in the Program for International Student Assessment (PISA), avoids national standardised tests altogether and achieves its enviable reputation by attracting highly qualified teachers, develops clearly supportive working conditions in its schools, nurtures strong degrees of professional trust, and has a clearly articulated commitment to inclusion and creativity.

What this will mean for the role of the principal is that they will be left with the unenviable task of not only having to manage the increasingly incredulous national testing procedures until their governments accept the need to halt the practice, but also of having to adopt those professional practices of countries like Finland and Singapore, which appear to produce better student outcomes. Since, as Hargreaves (2009) asserts, “the next 10 years will likely see more countries adopt educational strategies like those of Finland and Singapore where it is recognised that innovation and creativity require different, more flexible conditions of teaching, learning and leadership found in networks, relationships and interaction rather than in tightly controlled policies, procedures, and accountabilities.” (p.97)

To this end, Fullan (2009) forcefully advocates that the role of the school principal needs to be refocussed systemically sooner rather than later. Specifically, he argues that the role of the school principal must primarily be about how he/she can work together as closely as possible with their teachers so as to improve student learning and achievement. Moreover, Fullan counters the claims linked to the improvement of educational basics through standardised testing with reference to the McKinsey Report. This Report examined the characteristics of the top 6 countries in international rankings for student assessment in literacy, numeracy and science and found that the four key common factors within the educational systems of these countries were that they (2009, p.107);

- Implemented strategies to ensure that they attracted high quality teachers
- Focussed on continually developing the quality teaching practices in all their schools
- Cultivated the knowledge and skills of every school leader so that they could confidently and capably become educational leaders within their school
- Used data to supplement and critique professional judgements

What, then, is the picture that has been created of the lived reality of today's school principal? It is one of contestation rather than cohesion. While the research data emphasises the need for the principal to be mainly focused on nurturing the professional quality of the learning environment, the ever expanding logistical and legal responsibilities and accountabilities are consuming much of their time. The role of the principal has evolved into such a multifaceted and multi-dimensions conglomeration of leadership and managerial tasks that what should be essential is lost in a whirlpool of ambiguity. The core facet of school leadership should be on the principal becoming a confident and capable educational leader, on becoming a profoundly influential professional role model and mentor, and on developing the character and capacity to be able to create a professional learning community in their school. Moreover, this key facet would embrace the need for the principal to be regularly attending to the ongoing development of their own pedagogical knowledge and skills, as well as that of the teachers they are leading, ensuring the school is suitably resourced for supporting the desired learning experiences, encouraging the development of a professional learning community, and successfully overseeing the many challenges inherent within bringing about the necessary educational changes required to create the ideal learning environment, to name but a few.

Instead, this facet is significantly weakened by formal and perceived pressure upon the principal to be attending to more practically explicit and tangible but far less professionally influential outcomes. Additional facets to do with formal or perceived responsibility in the areas of human and physical resource management and development, public relations (particularly if the public release of national testing data is potentially damaging to the reputation of the school), workplace health and safety regulations, child protection regulations, financial management, staffing and employment, industrial award conventions, and so on. Naturally, just like the facet of educational leadership, each of these additional facets incumbent upon the principal is imbued with many different and seemingly important dimensions.

If this multifaceted and multidimensional mix also includes mandatory school reporting accountabilities, performance management liabilities, externally initiated goal setting tasks, and political networking and lobbying duties, then no wonder that there are growing health and disinterest concerns about school leadership. Consequently, it is quite understandable as to why Fullan is so vigorous in his call for the dire need to bring about systemic changes. Educational systems must take up the responsibility for creating the conditions which will free principals from excessive managerial responsibilities and, thereby, allow them to accept their primary moral responsibility of nurturing the professional quality of the learning environment within their own school. Unless educational systems change what they expect from their principals, this key responsibility will never blossom and the school learning environment will remain inescapably deficient.

Implications for Educational Systems Leadership

What would be the implications if the leaders of educational systems seriously adopted Fullan's proposition? What would educational systems leadership look like if its focus was on fully supporting the educational role of the principal rather than on overseeing and supervising the principal's

commitment to managerial compliances and performance accountabilities. In order to accomplish this important outcome it is, first, necessary to understand the general nature of the role of the principal if educational leadership became their primary and dominant responsibility. If we can understand the general nature of the principal's role as the educational leader, regardless of the specific tasks that this may entail, then we are better able to determine how to provide the support that they would truly require.

Influenced by the thoughts of Davis (1996, p.13), the role of the principal as the educational leader would be "more a complex choreography than a linear progression, with the criterion for success being an adequate fit with a dynamic environment rather than an optimal fitness to a fixed setting." In other words, if educational leadership is deemed to be the fundamental responsibility of the principal, then poor performance is not the inability to complete prescribed responsibilities but, rather, it is the inability to keep pace with the demands of the changing educational environment and the professional needs of the teachers they are leading. Essentially, their role is about maintaining an authentic commitment to continual individual and collective professional learning than it is about a commitment to externally devised managerial compliances and performance accountabilities.

For the school principal, this is a move from the world as given by the educational system to the world as unfolding through the choreography of action amidst the professional community that they are leading. Moreover, this is a world that cannot be fully known in advance because it is constantly evolving. As the principal works with the teachers that he/she is leading towards better understanding contemporary pedagogical theories, towards better appreciating the specific needs of the students in their particular school, towards learning how to adopt and adapt any new pedagogical theories, and towards more collegially supporting each other amidst the inevitable uncertainties and anxieties of adjusting to new professional practices, the lived reality for all will be performed and not preformed. Planning and preparation will be essential but the reality is aligned with a commitment to risk taking towards continuous individual and collective professional learning. Constant change is unequivocal. The efforts of the school principal and his/her staff are centred upon continually developing a better professional understanding based on being fully cognisant of contemporary pedagogical theory and using it to critically reflect on their professional practice, their professional perceptions, and their professional patterns of thinking about the learning needs of the students they teach.

Essentially, the school principal in this light is the leader of what has become known as a professional learning community. As defined by Hord (see Stoll et al., 1997, p.1), a professional learning community is, "A professional community of learners in which the teachers and its administrators continuously seek and share learning, and act on their learning. The goal of their actions is to enhance their effectiveness as professionals for the students' benefit; thus, this arrangement may also be termed communities of continuous inquiry and improvement." Within such a community, improved teaching and student learning emerges from the ongoing collaborative professional activities of the school leader and his/her teachers. Pedagogical theories are not applied unquestionably, teaching strategies are not copied uncritically, and past learning practices are not replicated unthinkingly. Rather, the school community is seen as unique, each teacher is acknowledged as being idiosyncratic, and the needs of the students are deemed to be distinctive and evolving. Hence, the professional learning and practices need to be selective, exclusive, exceptional, and dynamic. The professional knowledge and skills required to best serve the needs of the students in the particular school would be continually emerging from ongoing professional discussions, collaborations, practices and reviews that must be constantly occurring amongst the principal and the teachers. In this way, what one professional learning community decides as to what is the best learning environment in its particular school will be distinguishably different from what professional learning communities in other schools decide upon.

This perspective of improved teaching and student learning emerging from the ongoing collaborative professional activities of the principal and his/her teachers is consistent with complexity theory. A central principle of complexity theory is "emergent self-organization", whereby systems achieve order because multiple local agents interact and those interactions produce unintended outcomes without the

intervention of a central controller (Chiles, et al., 2004; Plowman, et al., 2007). Thus, organisations take on properties and structures that are unexpected because people and groups within the particular organisation interact collaboratively to better achieve the primary focus of the organisation and, hence, the results of those interactions produce perpetual success and sustainability for the organisation. Leaders of organisations influenced by complexity theory thinking do not try to direct change or control future outcomes. Rather, they encourage connections among those they are leading, in particular, non-linear, emotional connections (Dutton & Heaphy, 2003). Connections based upon equality, respect, collegiality, support, encouragement, and empathy. According to Regine and Lewin (2000, p.12), complexity theory argues that, “Anything that enhances the interactions will enhance the potential creativity and adaptability of the system.” From a complexity theory perspective, organisational success and sustainability is built upon positive relationships and not on organisational structures.

If the achievement of improved teaching and student learning is consistent with complexity theory, then what does complexity theory say about educational systems leadership? From a complexity theory view, educational systems leaders must first accept that they cannot directly influence the quality of teaching and learning in each of their schools because it emerges from the interactions among the people in each school and throughout the system. Hence, educational systems leaders must strive to enable rather than control the quality of professionalism occurring in each of their schools by cultivating the conditions where each school can produce innovations that lead to productive, and largely, unpredictable professional outcomes (Plowman, et al., 2007). Educational systems leaders cannot directly influence the quality of teaching and learning by placing managerial compliances and performance accountabilities upon principals because in complex systems like schools, unpredictable and sometimes unexplainable internal dynamics will determine the quality of the professional outcomes. An alternative focus for educational systems leadership is to seek to enable rather than control, where power derives from the system leadership’s ability to allow rather than to direct (Regine & Lewin, 2000), and where principals are openly encouraged to remain engaged and connected in all the activities across the whole system (Knowles, 2001).

Indeed, this is how it is argued that educational systems leadership achieves the necessary organisational commitment and order across all of its schools so that it not only remains a united system but also that the system, as a whole, is moving forward productively and sustainably. As Plowman and colleagues (2007) explain, traditionally, systems have sought organisational commitment and order by attempting to reduce complexity through mandating policies and procedures, prescribing solutions to problems, codifying critical cause and effect linkages, and engaging in complex planning for a world they believed was ultimately controllable and predictable. From this view, the main focus of systemic leadership is about trying to control the future by acting now to reduce complexity and uncertainty and directing everyone else within the system through largely hierarchical structures towards highly prescribed desirable future states. In contrast, complexity theory proposes that organisational commitment and order is self emergent given the right organisational culture. Given the right support, systems self-organise.

In self-organizing systems, order comes from the actions of interdependent agents who exchange information, take actions, and continuously adapt to feedback about others’ actions rather than from the imposition of an overall plan by a central authority (Chiles, et al., 2004). Thus, complex systems are characterized as non-linear because the components that comprise them are constantly interacting with each other through a web of feedback loops. Emergence happens in complex systems, in part, because they strive to become highly sensitive to what is happening throughout the system so that small improvements in one part of the system can bring unexpected beneficial changes to other parts of the system. When systems move away from trying to control stability and change and into the region of complexity, adaptive tensions give rise to emergent self-organization (Anderson, 1999; McKelvey, 1999; Plowman, et al., 2007). Davis (1996) describes this automatic trend towards self-organisation, provided the right conditions are available, as the achievement of “layered self-similarity” (p.15). He goes on to explain that the phenomenon of layered self-similarity “is concerned

with those systems that exist on the edge of chaos – where the components of a system never quite lock into place, and yet never quite dissolve into turbulence.”

To create the right conditions for creating self-organisation, effective educational systems leadership needs to recognize the importance of interaction, collaboration, correlation, and unpredictability among schools or groups of individuals throughout the system. Moreover, it needs to enable such conditions but it must not attempt to control or direct them. It must allow interaction, collaboration, correlation, and unpredictability to emerge by creating countless opportunities for individuals and groups to engage in non-linear processes. These interactions not only create innovation but also help to facilitate correlation, the emergence of a common or shared understanding of the system through a recognizable pattern in organisational behaviour. Furthermore, when educational systems leadership facilitates such emergent correlation it helps others throughout the system to make sense out of what is happening; it gives meaning to unfolding events impacting on the system.

In addition, educational systems leadership enables innovation and correlation by becoming catalysts for actions, and functioning as ‘tags’ (Holland, 1995; Marion & Uhl-Bien, 2001). Tags enable or speed up specific behaviours by directing attention to what is important and providing meaning to events. According to Wheatley (2006), by far the most powerful force of attraction in systems and in individual lives is meaning. Despite the prodigious demands that are now placed upon principals, “it has been seen that incredible levels of energy and passion can be evoked when leaders [are] recalled to the meaning of their work. Very few people work for trivial purposes. Most people come to their own relations with a desire to do something meaningful, to contribute and serve.” (p.132) Wheatley goes on to add that; “The call of meaning is unlike any other, and we would do well to spend more time together listening for the deep wells of purpose that nourish all of us. We need to understand and ascribed meaning to things.” (p.133)

Hence, educational systems leadership needs to accept that its principals do not require prescriptive regulations and policies to ensure responsibility and accountability, they only need a clear understanding of meaning and the time to reflect upon their systemic experiences in the light of this meaning. Principals do not need to be told what they have to do, this is divisive and unnecessary. Rather, they simply need the time to reflect upon and interpret their evolving reality in order to find a true, authentic understanding about their own leadership. In return, educational systems leadership gains loyalty, commitment, determination and responsibility from its principals. As explained by Wheatley (2006, p.133);

When leaders honor us with opportunities to know the truth of what is occurring and support us to explore the deeper meaning of the events, we instinctively reach out to them. Those who help us center our work in deeper purpose are leaders we cherish, and to whom we return love, gift for gift. With meaning as our centering place, we can journey through the realms of chaos and make sense of the world. With meaning as an attractor, we can re-create ourselves to carry forward what we value most.

Given the opportunity to dwell on the meaning ascribed to their work, principals are able to discover common issues and problems that are deemed significant. Then responsibility becomes spontaneous. Although we see responsibility at the material level, it is caused by processes that are immaterial. Thus, educational systems leadership must look for these invisible processes rather than the concrete regulations and policies that they engender. It must look for those processes that give rise to meaning. It must look behind the regulations and policies of the system to work with the processes that give them birth and value. The greatest challenge for educational systems leadership is learning to live in the process world rather than the material world. Life demands that educational systems leadership must participate with its principals’ unfolding experiences, to expect to be surprised, to honour the mystery of it, and to see what emerges. These are difficult lessons to learn as most people who have risen to positions within educational system leadership are well-trained in being able to create things - plans, events, measures, programs, regulations, policies and accountabilities – rather than to sense things and to describe meaning.

Wheatley (2006) reminds us that the “combination of shared meaning with freedom to determine one's actions is how systems grow to be more effective and well ordered. People who are deeply

connected to a cause don't need directives, rewards, or [systemic policies] to tell them what to do.” (p.181) For humans, meaning is a strange attractor - a coherent force that holds seemingly random behaviours within a boundary. What emerge are coordinated behaviours without control, and responsible principals that are far more effective in accomplishing the educational system's objectives. “When highly motivated and eminently capable people share a common vision,” says Hamel (2002, p.111), “they do not need to be micromanaged.”

When principals are trusted to do their educational leadership responsibilities to the best of their ability and are given the freedom and resources to achieve their desires then all they need is a clear understanding of meaning to become accountable. Accountability comes from self-reference and self-organisation, which automatically flow from a clear understanding of meaning. Compliance comes from regulations and policies; accountability comes from a conscious commitment to what is meaningful. Accountability results from a principal willingly committing to something meaningful to them and being free to adjust their own behaviour according to what this meaning mandates. This is the natural, and powerful, process of self-reference. The principal self-references themselves according to the fundamental meaning, the identity, the principles and values of the educational system. “Self-reference,” explains Wheatley (2006, p.168), “conjures up such different possibilities for how to be together. It explains how life creates order without control, and stable identities that are open to change. It describes systems of relationships where both interdependence and individual autonomy are necessary conditions. It promises that as individuals together reference a chosen, shared identity, a coherent system can emerge. It illuminates the necessity for meaning-making in a world that often feels meaningless.” When principals are able to embrace systemic meaning they discover a common interest or passion, they organize themselves and figure out how to make things happen. Such self-organizing evokes creativity and produces results, creating a strong, adaptive educational system.

In summary, complexity theory calls upon educational systems leadership to make dynamic connectedness their focus. Essentially, dynamic connectedness assumes that the principal and their educational system leaders, along with their system, are not isolatable parts but, rather, together form an integral whole. Thus, only a holistic strategy is capable of appropriately addressing any formal liabilities, responsibilities, and accountabilities. Moreover, such a holistic strategy requires a change in systemic values, norms and beliefs, along with roles and behaviours. In particular, educational systems leadership, says Wheatley (2006), has to stop acting like a patron waiting expectantly for the school principals it governs to meet all prescribed mandatory accountabilities. Rather, it needs to become involved and play its crucial part.

Establishing dynamic connectedness begins with the educational systems leadership accepting its responsibility to create organisational meaning and identity for all, particularly for those in leadership positions below them. The primary task for educational systems leadership, explains Wheatley (2006), “is to make sure the organization knows itself”. (p.131) Its role is not to make sure that the principals in its system know exactly what to do and when to do it. Instead, it needs to ensure that there is strong and evolving clarity about who the system is. When this clear identity is available, it serves every member of the system, but especially those with school leadership responsibility. Even in our chaotic, turbulent and unpredictable educational environments, principals who have a clear understanding of the system's unchallengeable values and principles can make congruent decisions.

When confronted by chaos, turbulence and unpredictability, it is difficult to believe that clear values and principles are sufficient and our training urges us to interfere immediately, to rush in, to stabilize, and to prevent further destabilisation. But educational systems leadership must understand that, urges Wheatley (2006), systems lose capacity, and in fact create more chaos, when its leaders insists on hierarchy, roles, control and accountability. Those with the highest authority need to trust in the workings of our complex world, as it is now described by quantum scientists, and recognise that responsible leadership and organizational success are maintained simply by their concentration on retaining clarity about the purpose and direction of the system. When things become chaotic, this clarity keeps all those they lead on course.

Nothing described by Newtonian physics has prepared us to work with the complexity of living networks. A Newtonian perspective would suggest that the force of the need to achieve responsible school leadership by the principal had to equal the weight of the consequences for not measuring up to prescribed accountability expectations. But now we know something different. We are working with school communities, not billiard balls. Educational systems leadership does not have to push and pull principals, or bully them into being accountable; it has to participate with its principals in discovering what is important to the system. Although complexity theory, as described in quantum science, cannot explain where order comes from, what is known is that complex sub-atomic systems do eventually achieve order around clear centres rather than imposed restraints. Within our complex systemic educational structures, having a clear centre means having a clear understanding of values and principles, which create meaning and, ultimately, successful and sustainable professional learning communities led by confident and capable principals. In this way, such systemic leadership indirectly contributes towards achieving the moral responsibility of creating the best learning environment for each school's students.

Why should Educational Systems Leadership consider adopting such changes?

To date, the perceived benefits from adopting a complexity theory inspired approach to educational systems leadership is theoretical. It is yet to be proven through practical application. Thus, is too much at risk should this perspective of educational systems leadership be adopted? This concern is established upon two assumptions. First, that our current educational systems leadership is founded upon unquestionably credible practices. Secondly, that our current educational systems leadership practices do not cause any undesirable outcomes. Arguably, if it is possible to show either or both of these assumptions to be invalid then any concern about risks associated with adopting a different approach to such systems leadership must surely be significantly diminished.

To this end, it is important to note the views of eminent international speaker and author on organisational leadership theory, Gary Hamel, regarding the degree of relevance and credibility associated with our current systemic leadership practices. Hamel (2002) compellingly declares that much of our current systemic leadership practices were developed early last century based on ideas proposed in the 19th century. He writes:

Having evolved rapidly in the first half of the 20th century, the technology of management has now reached a local peak. ... When compared with the momentous changes we have witnessed over the past half-century in technology, lifestyles, and geopolitics, the practice of management seems to have evolved at a snail's pace. ... Perhaps the problem with leadership is that we have reached the end of management. Perhaps we have more or less mastered the sciences of organizing human beings, allocating resources, defining objectives, laying out plans, and minimizing deviations from best practice. (p.4)

Although emotively critical, and somewhat condescending, of current systemic leadership practices, the key point that Hamel is making remains extremely relevant. Systems have become so reliant upon certain management practices for such a very long period of time that they fail to see their limitations. There is no doubt that these practices were extremely successful in their time – that is why it is so difficult to now challenge their relevance and effectiveness. Hamel suggests that systems have failed to see the contextual relevance of these organisational management practices such that systems leadership assumes they are based upon some natural universal law. He argues that systems leadership thinks these traditional practices will be applicable forever when, indeed, their time has passed. Rather than being contextually specific organisational management initiatives they have become dogmas. Instead of being seen as a particular way to achieve desired outcomes associated with organisational success in the middle of the twentieth century, they are seen as unassailable organisational principles. According to Hamel, we have “mistaken the temporary for the timeless.” (p.42) In other words, Hamel is advocating the need for systems leadership to look for new, more contextually relevant and suitable, ways and means to create systemic success and sustainability.

So, if there is a question mark associated with the first assumption, what about the second assumption? Do our current educational systems leadership practices cause any undesirable outcomes? Here it is

noted that international research data unambiguously highlights the unacceptable levels of stress in school leadership, untenable levels of disinterest in school leadership positions amongst suitably qualified middle managers, and some unsustainable administrative practices within educational systems. Bolt (1996) accentuates these concerns with the claim that:

The dearth of leadership is apparent throughout society. No matter where we turn, we see a severe lack of faith in the leadership of our schools, religious organizations, and governments. Worldwide, corporations approach the 21st century with a severe deficit of business leaders equipped to deal with the complexities, volatility, and new rules of the global marketplace. (p.163)

This crisis has not been for the want of attention. In response, educational systems worldwide have revised and enhanced their school leadership professional development programs believing that improved knowledge and skills in both the existing and future school leader will greatly redress these serious issues. But, is this initiative sufficient? Are the educational systems, themselves, partly to blame?

There is widespread support (Duignan, 2006; Hames, 2007; Little, 1997, Marks, 2003) for the belief that the organisational culture of ever increasing managerial demands, in the form of prescribed or mandated efficiency, standards, targets, productivity, auditing and accountability processes, needs to be reversed in order to decrease excessive school leadership stress. For the past 20 years as these managerial expectations have continually expanded, there has been a clear acknowledgement within academic literature of increased levels of stress amongst those in leadership positions (Allison, 1997; Bergin & Solman, 1988; Carr, 1994; Robertson & Matthews, 1988; Smith & Cooper, 1994). More specifically, Rees (1997, p.35) claims that “job stress, in general, and managerial stress, in particular, seems likely to have been on the increase”. Moreover, Fulcheri, Barzega, Mania, Norava, & Ravissa (1995, p.3) suggest that many contemporary leaders “are suffering extreme physiological symptoms from stress at work”. Similarly, Allison (1997, p.39) highlights that Canadian research supports the perception that “a substantial number of school administrators have had to take medical leave due to stress-related illnesses”. There is indisputable worldwide evidence showing that principals, today, are more prone to serious, even life threatening, levels of stress than ever before.

According to Menon and Akhilesh (1994), a key cause of leadership stress is the frequent expectation that principals can do more and more with less and less and this causes them to try to do the impossible. As a result, the principal is forced to implement “random prioritization, with accompanying feelings of inadequacy, failure and guilt” (Rees, 1997, p.36). It is too easy for rational-based thinking to create a never ending list of prescribed actions and procedures. Logical reasoning will always come up with a possible solution but many of these solutions have an inbuilt limitation in its applicability as each solution cannot accommodate every possibility. Consequently, not only does such a plethora of rational procedures make it impossible to implement them all due to logistical and time constraints but also it is impossible to have sufficient procedures that appropriately deal with every type of situation. Hence, principals have to either prioritise what they can do and/or adjust what has been prescribed. Either way, the principal is likely to end up feeling unsure, inadequate or guilty as they are not doing what their system leadership expects them to do.

Moreover, principals have been forced by necessity to revert to decision making based on personal subjectivity despite being surrounded by rational alternatives. As noted by Hodgkinson (1996), any process of prioritisation, which involves choosing one action in preference to another, is a subjective decision. The act of prioritisation ultimately depends on the principal’s consciousness. In this situation, rationality informs the principal’s consciousness but eventually it is his or her subjectivity that determines what the right thing to do is. However, in an environment in which the primacy of subjectivity is not recognised or, worse, denied, then the principal is left feeling very vulnerable and uncomfortable (Branson, 2009, 2010). While the principal might well believe he or she has done the right thing, they are still likely to be anxious, fearful, or stressed about potential adverse consequences if things go askew and they are found to have not followed an expected procedure.

More directed research into the causes of stress amongst principals has promoted the understanding that there is a link between leadership stress and job satisfaction (Blix et al, 1994; Gmelch and Gates,

1998). A commonly listed cause of decreased job satisfaction in school leadership is a sense of powerlessness as a result of role conflict and role ambiguity (Burke, 1988; Fairbrother and Warn, 2002; Nelson and Burke, 2000; Smith and Cooper, 1994). Furthermore, Bussing et al (1999) outlines a work satisfaction framework in which a person builds up a positive workplace outlook depending on whether or not their personal needs and expectations are being satisfied through some sense of controllability. It is argued that controllability serves as a crucial primary means of regulating the person's workplace outlook and influences his or her development of workplace meaning, purpose, and fulfilment. If a principal feels powerless, whereby they sense they do not have any real control over what is being expected of them, then eventually their workplace satisfaction is lowered and they lose their sense of meaning, purpose, and fulfilment in what they are doing.

This sense of powerlessness can form through role conflict and role ambiguity when the principal is torn by conflicting job demands or by doing things he or she does not really want to do, or things which the principal does not believe are an essential part of his or her job (Carr, 1994; Smith and Cooper, 1994). In research and consultancies in a number of public-sector organisations, Duignan (2006) states that he has witnessed principals agonising over the ethics of their expected management practices, and on the absence of meaning and purpose in their working lives. Furthermore, he claims that some principals feel so powerless in being able to do what they want to do, and compelled to do what they feel is unnecessary, that they allow their perceived role to suppress their true self such that they have to continually work hard to project a rarefied version of themselves.

Within such confusion and powerlessness, some principals are prone to "image manipulation" as they present "dramaturgical performances" instead of "authentic and substantive administrative work" (Hodgkinson, 1991, p.59). Such powerlessness occurs when there is conflict between what the principal wants to do, as formed in their consciousness, and what they feel compelled to do, as based on externally imposed, rationally based, systemic imperatives. When such conflicts occur on a regular basis not only is their leadership performance at risk but so too is their physical health and this results in stress related sickness.

Thus, it is unequivocal that our current educational systems leadership practices are causing undesirable, if not untenable, outcomes. Our current educational systems leadership practices not only lack contextual credibility but also ethical propriety. In this way, to not look towards adopting a new approach to educational systems leadership is far more of a risk to the success and sustainability of the system than it is to be trying something that is untried and unproven.

Conclusion

During the 1980's, at the time of the previous global economic recession when many companies were faltering all around the world, The Shell Report (Hames, 2007) was established to review a select group of 27 large highly successful international companies so as to ascertain the criteria that formed their corporate longevity. This included companies like Shell, Mitsui, Stora, and DuPont. This report found that their most telling common factors for ongoing success were their openness to learning, their flexibility, and their adaptiveness and not a commitment to a highly managed culture formed through regimented roles and responsibilities, resolute goals and expectations, and prescribed accountabilities. Although, these findings were largely dismissed at the time, now as the world has entered a far more serious and debilitating global economic crisis, marked by large scale unpredictability and uncontrollability, organisations worldwide are beginning to embrace the invaluable insights gained from this study.

Now, organisations are acknowledging that many of the rules underpinning industrial and business economics, once uncontested, now serve only to hinder and frustrate. It is recognised that "regulated goals, accountabilities and audits tend to burden the best people in the system who conscientiously try to make it work" (Hames, 2007, p.59). Imposed performance management frameworks and accountabilities and traditional chain of command configurations do not contribute any long-lasting value but, rather, disrupt critical knowledge and intelligence flows across the organisation. Today's organisational research clearly shows that our commitment to greater accountability, compliance and diligence actually increases costs, dampens motivation, diminishes innovation, encourages time wasting and game playing, stifles learning, and has a long term debilitating effect on morale. Thus,

the traditional bureaucratic service model unintentionally not only delays the response time to critical issues but also hinders the processes for the sharing of wisdom amongst those who can really make a difference and, thereby, creates the possibility for the development of distractions caused by misinterpretations.

Hence, Hames (2007) argues that educational systems leadership must create an “operational symbiosis” (p.67) in which the principals are encouraged to look inside their schools for new solutions while the system looks outside of the system for possible solutions, constantly conversing with each other to create coherence through a shared understanding and a strategic alignment. The system must be viewed as being ‘open’, a community of interlinking learning networks where strategic conversation is the main enabler of decision making and performance. This is about the development of a systemic culture in which it matters much less who reports to whom, as who needs to talk with whom and how all the pieces of a complex interrelated system-wide jigsaw fit together to form a synergistic whole. Within this culture, the system is more able to take notice of the “fringe knowledge” (p.79), the everyday knowledge and practical wisdom which is known “at the edges of the system”.

Systemic leadership understandings such as these underpin Hargreaves (2009, p.99) view that,

The coming era of organisational culture will witness reduced commitments to grandiose designs and granular micromanagement of top down control in favour of an age of innovation and inspiration in a world where people are increasingly prepared to look to each other in building a more hopeful and innovative society together rather than nostalgically and unquestionably relying on past outmoded organisational strategies.

This is about realising the ever deepening divide between what is being asked of principals and what they can actually and preferably do. Moreover, it is about realising that if the norms and values of the system, itself, is a significant contributor towards causing the misalignment between what principals should be doing and what they are only able to do, then these must change. The system must change.

Essentially, this is about liberation; creating freedom in a coherent way throughout the whole system. Just as the new aim of teaching is about creating the conditions that liberate the student, so too is principalship about creating the conditions that liberate teachers and educational systems leadership is about creating the conditions that liberate principals. Just as students need to be freed from inadvertent and unintentional learning restrictions so as to be able to reach their individual potential so to do the teachers need to be freed from their own professional and personal fear, anxiety and ignorance so that they can confidently and capably create this totally new learning environment. This they can only do with the full support and involvement of the principal. Thus the principal needs to be freed from their many onerous and time-consuming non-educational leadership responsibilities so that they can become the educational leader that is desperately required. However, this can only be adequately achieved if educational systems leadership creates the organisational conditions which make it possible for all these critically important outcomes to be achieved.

To prepare world class educational leaders of learning, it is essential that the process for learning about leadership is closely aligned to what is now considered to be best practice in promoting student learning. If it is essential that our school principals become skilled educational leaders who can readily model and support quality teaching and learning, then they must have the full and appropriate support from their educational systems leadership. This paper has applied the assumptions and intentions of emergence or complexity theory to the context of learning, teaching, principalship and educational systems leadership. While this process underscores the pivotal educational role of principals as initiators and sustainers of learning excellence, it also has serious implications for educational systems leadership expectations and practices. In particular, embracing this new approach to educational leadership does not mean that we have to forgo such things as performance management, vision, goals, and strategic accountability procedures; it just means that the desired outcomes from these procedures need to be achieved differently.

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