

# Systemic Thinking and Education Leadership: Some Considerations

## Systemic Thinking and Education Leadership: Some Considerations

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**Abstract:** The practice of education leadership has its challenges not only in myriad events that arise but also in working with various stakeholders in education, from children and their parents, to teachers, other administrators and support staff, to community members. With this practice comes an attending challenge of complexity to which the education leadership might respond status quo or in a variation of spot attempts at novel approaches, like additives people put in their vehicles to improve performance. In this complexity that infuses education and its leadership, to rely on tried and true practices or ad hoc patches of this or that approach now runs a great risk of failure or compounding problems. The application of systemic thinking, through the introduction of the three systemic clusters of Purposes, Form/Design and Infrastructure, arguably ensures a more productive approach to life events in the education setting. This paper serves as an introduction to these three clusters and the corresponding application of a Systemic Factors Inventory Analysis matrix as a viable option to education leaders dealing with any life event.

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### *Introduction*

As I waited for the school secretary to return after she had to step out for a few moments, I could hear thumping and banging and the muffled but familiar voice of the principal. Suddenly the principal's door opened just enough for her to call out to the secretary, Aubrey. After a few seconds of awkward silence I answered her telling her that Aubrey wasn't there, asking her if I could help. "Oh, hi Blane," she responded calmly but with a tinge of urgency, "Could you run and get the school counselor, please?" About to jump to action, I was stayed by Aubrey who appeared and immediately set out to assist Ms. Beaulieu. I discovered later that the troubled student needed a family member and medication, was experiencing some problems and acting out inappropriately in class as well as, it turned out, in the principal's office. After about an hour the situation and student were saved. For Ms. Beaulieu another day was just beginning.

Education leadership is a complexity of practices. That is the administrators of schools must deal with myriad events, such as the one I described above, in the course of each day and even into some nights. It is the assessment of and response to these life events that captures my attention. What is the problem, how best to understand it and achieve some level of success dealing with it, who are the players and stakeholders, and what is the next step? There are many other factors, too, that weigh in on the event including on the determination of the course of action as well as

on the outcomes from these actions. Will the responses to life events stem from what has been learned over the course of time and experience, a default status quo outcome or some application of old and new, like a patchwork puzzle approach to problem solving?

Fritjof Capra (2002) states in his executive summary for his Life and Leadership seminars: In this new economy, the processing of information and creation of knowledge are the main sources of productivity. Thus knowledge management, intellectual capital, and organizational learning have become important new concepts in management theory. Applying the systems view of life to organizational learning enables us to clarify the conditions under which learning and knowledge creation take place and to derive important guidelines for the management of today's knowledge-oriented organizations.

Systemic thinking acknowledges that the world is complex. One challenge of systemic thinking is that future educators, and especially education leaders, will need to shake off the linear mold of problem solving or strategic planning in dealing with life events. A life event is more than a single episodic experience but includes the factors associated with an experience.

In this paper I will focus primarily on systemic thinking and its application in education leadership drawing upon my research in business-education partnerships as a current example. It is not my intent to assume education leadership suffers or is deficient. Specifically I will delineate a current development in systemic thinking and its potential benefits to education leadership as a challenge to what might be construed as status quo as well as to well-meaning but perhaps inadequate responses. The need for and challenge of systemic thinking in education is as much to ensure better understanding of life events as it is to offering an alternative to adequate leadership.

### *Background*

In the research that led up to this paper I examined the perceptions that people in business and education have of one another, of workplace, and of business-education partnerships. To make sense of the seemingly divergent single perceptions and other convergent points I developed three systemic clusters (Systemic Purposes, Form/Design, and Infrastructure) that I believe provide a more manageable and perhaps intuitive means of making sense of, and planning for, life events. While systemic thinking helped me to think of my topic as a complex set of systems, the three clusters helped to organize the patterns of data bits and provided insights on other systems, such as organizational behavior or education leadership for example. Because the world is complex and because life events are complex, making sense of the whole and, where applicable, deriving solutions may mean alternative and sometimes messy approaches that resist non-linear approaches.

Systemic thinking provides an organizing means of understanding the interconnectedness of life events in the world. Perhaps it is the lack of systemic thinking examples in education that impedes a comprehensive and wide-ranging source of applications from which one could draw. Applying systemic thinking in education is a difficult task largely because of systemic factors in education that compound its application. Although some resources exist that attempt to apply systemic thinking in education (see Case, 1992; Isaacson & Bamberg, 1992), the paucity of such examples raises some possible concerns, including the misunderstanding of what is meant by

systemic thinking. Education leaders need to understand more than just behavioural incidents and institutional operations. There are factors associated with each of these that may shed light on responses and solutions. But first let us examine the literature pertaining to systemic thinking and leadership.

### *Research Review*

According to Robert Flood (1999), drawing from Peter Senge's 1990 work in systemic thinking and business:

Systemic thinking explores things as whole and is highly relevant...because the world exhibits qualities of wholeness. These qualities of wholeness relate to every aspect of our lives - at work and at home...Life events can be made sense of in a meaningful way only in the knowledge that our actions contribute to patterns of interrelated actions...The world is whole and the whole is complex. It is increasingly complex with more and more information, intense interdependency, and relentless change. (p. 13)<sup>1</sup>

Consider that education is a system comprised of factors, such as students, teachers, parents, administrators, courses, curriculum, legislation, funding and buildings together with a host of related elements, or sub-factors, such as perceptions, ambitions, entrepreneurship, competition, marketization, and cultural and spiritual beliefs. This "system" in turn relates to other systemic factors in society, such as workforce or education leadership, which form more interconnected and complex systems.

Betts (1992), however, cautions that "the word system has been popularized without a fundamental understanding of its implications, to the point where everything is a system but nothing is really treated as one.... Decision makers need to fully understand why our current approaches [in education] won't work and what is different about the systems approach" (p. 38), a message that was passed on by Bertalanffy (1981) in his discussion of systemic thinking in education. Knight (2002) likewise indicates that there appears to be confusion among researchers about the nature of systemic thinking. He states: "Complexity theories may best be treated metaphorically because they are not completely consistent with each other and they mean rather different things to different people" (p. 234). Indeed, in some research discussions general statements are made about systemic thinking applications but lack concrete examples of what such applications either look like or how they might be implemented. Knight (2002), and Fetters, Czerniak, Fish, and Shawberry (2002) make passing references to systemic thinking applications in their writings without either developing its meaning or what was particularly systemic in their studies. Knight, for example, suggests: "Soft systems thinking and complexity theories see organizations quite differently. If such ideas are plausible (and they have impressive proponents), then there are considerable implications for the ways in which we might go about enabling continuing professional development" (p. 234). The doubt raised here leads to a shaky conclusion about the utility of systemic thinking in education.

One of the challenges facing education leadership is the school organization itself. Garmston and Wellman (1995) note that the "high school also serves as a striking form of an adapted - not adaptive - organism. Designed in another time, for the purposes of that time, the typical high school often shows a remarkable lack of flexibility" (p. 6). Peter Senge, author of *The Fifth Discipline: The Art and Practice of the Learning Organization*, commenting on the application of

systemic thinking in education, denies that schools are learning organizations (as cited in O'Neil, 1995, p. 20). His observation does not mean that schools are not capable of becoming learning organizations but that there are key principles that need to be in place in order for schools to become such organizations. These are "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Zemke, 1999, p. 49). Similarly, Allen and Cherrey (2000), in their work on applications of systemic thinking in leadership as developing networked organizations, claim that:

Traditional hierarchical leadership assumptions suggest that leaders are individuals who hold positions of authority. In the constantly changing networked world, individuals in positions of authority do not have enough power to influence because networks do not have a single lever to pull to start the assembly line of change. Nor do positional leaders have enough information to fully understand the whole system. If leadership capacities are encouraged and developed, anyone in the network can become an agent of leadership. (p. 108)

Bacharach and Shedd (1989) conclude that "[t]he top-down management techniques that were sources of efficiency in an earlier era have grown increasingly inefficient in today's more specialized, varied and variable product markets" (p. 151). The challenge here, of course, is the facility of engaging others to become proactive "agent[s] of leadership." Contributing factors that could make or break this expansion of the sphere of leadership are perceptions and the personal zone of proximal engagement, or that level of interest and desire in taking on leadership roles.

Systemic change, however, is difficult, as Senge said (as cited in O'Neil, 1995) and that Anderson (1993) also admits in her discussion on the subject. Allen and Cherrey (2000) point out: "Because networks are open systems, the number of variables in play also increases, and in turn, increases the level of complexity" (p. 105). A critical reason for the failure for schools to become such organizations has to do with the overarching purposes, form/design and infrastructure of schools, such as the isolationism and the political nature of formal education.<sup>2</sup> Have schools and administrations really changed much from this time of Bacharach and Shedd's (1989) claim? They indicate:

Time schedules, physical structures, one-teacher-per-class staffing patterns, and high teacher/administrator ratios make day-to-day contact with other adults haphazard... Norms of 'non-interference' discourage the asking and offering of advice... Curriculum policies, if they do not square with a teacher's judgment of what his or her students need or are capable of learning, often go unobserved and unenforced. (p. 146, emphasis added)

Perhaps what comes closest to a sense of systemic thinking is this earlier consideration of various factors that play a part of administration in the school system. According to Bacharach and Shedd:

Although Anderson argues a case for a matrix of systemic change that has practical implications for the system of education, Betts (1992) explains five key areas in education that thwart systemic change and the application of systemic thinking in education. He says systemic reform in education has been hampered because of "the piecemeal, or incremental, approach; failure to integrate solution ideas; a discipline-by-discipline study of education; a reductionist orientation; [and] staying within the boundaries of the existing system (not thinking out of the box)." (1989, p. 38)

A systemic thinking model, on the other hand, provides a mode of building what Flood (1999) calls, “holistic pictures of social settings. [Systemic thinking] suggests systemic ways of coping with them that challenge the very idea of problems, solutions, and normal organizational life” (p. 6). Events and organizations are not static but are dynamic. Because life events are connected and solutions can be complicated, the approach to understanding these events is unlikely to be (arguably will never be) a linear progression of neat or direct cause and effect relationships, but rather a series of causes and effects and dialectical developments. Certainly in education leadership the complexity of events and solutions is readily apparent. The means of approaching clearer understanding as well as solutions to events is found more thoroughly in applying systemic thinking. However, it is the development of a practical application of systemic thinking that is challenging given the complexity of an event and the few examples available.

### *Systemic Meta Clusters*

I have adapted Flood’s (1999) work and Bett’s (1992) definitions by developing three main systems meta clusters under which the various factors and elements of events can be subsumed. These three clusters are Purposes, Form/Design and Infrastructure.<sup>3</sup> My rationale for these headings is that for the sake of analysis and to increase our understanding of the complexity of education leadership, or any event or organization, it would be beneficial to be able to seek patterns, or archetypes, that could afford comparative or more revealing qualities that enable dialogue to ensue within and between systems. The three systemic clusters broaden the analytical plain to include personal as well as corporate factors. These key categorizations emerged from my research in education after pondering the collection of respondents’ perceptions and of how I could make sense of this data.

The Purposes cluster designates the goals or missions, objectives and participants in a system. This cluster responds to questions about desired goals and why those ones, who will be the participants that enjoy and instigate those goals, and the participants’ roles and status. The Form/Design cluster comprises the organizational image, protocol, regulative principles, dimensions, and site and place, or geographic set up. The Infrastructure cluster is concerned with questions of technique, or processes, governance and time frames. This cluster is concerned with the means and processes or technical and chronological aspects of achieving and sustaining the systemic purposes and articulation of the form/design. These three clusters interact. Goals and participant factors naturally lead to questions of form/design and the overall infrastructure of the event or organization. The question of why figures throughout and enables alternative responses and reformulating any of the cluster factor details, or elements, in an attempt to arrive at the best understanding of a system, albeit temporal.

These three systemic clusters help to locate common and divergent points of discussion and assist us by providing cohesive categories that ensure a better understanding of the systemic factors of a life event. I am not suggesting that the clusters operate equally well in all situations, such as behavioural incidents. But understanding the factors of an event opens up further possibilities for dialogue, problem reformulation and working toward solutions.

### *Implications for Applications*

Awareness of the systemic meta clusters is only a step in making sense of the world of education leadership. In order to develop the clearest understanding possible of a life event a series of questions under each of these clusters must be developed and answers sought. I will capitalize on the incident I related. In the heat of the moment is not practically conducive to conducting a Systemic Factors Inventory Analysis, or SyFIA.<sup>4</sup> At some point, however, an understanding the dynamics of the event should better prepare a person for future recurrences or related events. Rather than focus on the incident that I related at the beginning of this paper between Ms. Beaulieu and her student I will broaden the consideration to entertain a more global perspective on leadership and education. It is the practical development of Ms. Beaulieu's incident that helps to raise the types of questions below. The following questions, then, afford a beginning point as catalysts for further discussion and analysis. The details (factors and related elements) determined by these and additional questions assist researchers and practitioners in developing a clearer depiction of an event and a corresponding direction of response.

### *Systemic Purposes*

1. What are the purposes of this event (e.g. education, leadership approach)?
  - 1.1 Who should decide those purposes?
    - 1.1.1 Why?
2. What are the factors that led up to this event?
  - 2.1 Which factors are germane to the event and which ones are peripheral?
3. What are the criteria for choosing the participants in this event?
  - 3.1 Who decides?
    - 3.1.1 Why?
  - 3.2 Who is being excluded from the decision process?
  - 3.3 Are the outcomes from the decisions conducive to achieving the purposes?

### *Systemic Form/Design*

4. What are the expectations of each of the participants?
5. Is geography a critical issue to participants? In other words how much does it matter to the participants where the event takes place? Rate this on a scale of 10 with 1 being low and 10 being high.
6. Is this the best form/design for the desired purposes?
  - 6.1 What is the evidence to support this?
7. Who decides the form/design?
  - 7.1 Why?
  - 7.2 Who is being excluded from this decision-making process?
    - 7.2.1 Why?

## Systemic Infrastructure

8. What is the timeframe for

8.1 implementation?

8.2 induction of participants?

8.3 revisiting the purposes and the form/design?

9. What are the levels of governance and the roles of the participants (see Purposes)?

9.1 Is this the most suitable arrangement?

9.2 What is the evidence?

9.3 Who decides?

10. What are the means (techniques, methods, theories in practice, beliefs) of achieving the purposes?

10.1 Who decides these means and why?

## NOTES

1. For a better understanding and succinct overview of the genesis and development of systemic thinking consult Flood (1999).

2. For Fullan (1996), what began as an article about the problem of systemic thinking application in education turned into a misapplied tour of systemic change.

3. Betts (1992) explains systems in terms of openness and “characterized by three important concepts: hierarchy, homeostasis, and purposiveness” (p. 39). The three meta clusters I am suggesting I think are more appropriate to the discussion of organizations, especially, perhaps, the system of education.

4. Elsewhere I have developed a SyFIA matrix that enables researchers and practitioners to determine the diverse factors for any life event, whether after the fact or in preparation. This matrix combines the three meta clusters of purposes, form/design and infrastructure with five general factors categories: philosophical, practical, community/global action, physical/emotional challenge and creative response. The SyFIA matrix then becomes a robust research tool for making sense of the chaos of data and ensuring the best possible response in a situation.

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