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Learning Organizations

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Learning Organizations

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On Schools as Learning Organizations: A Conversation with Peter Senge

John O'Neil

An organization's ability to learn may make the difference between its thriving or perishing in the years ahead, says author Peter Senge.

The Fifth Discipline explains the characteristics of "learning organizations." Schools are considered to be institutions of learning, but are most of them learning organizations?

Definitely not. A learning organization is an organization in which people at all levels are, collectively, continually enhancing their capacity to create things they really want to create. And most of the educators I talk with don't feel like they're doing this. Most teachers feel oppressed trying to conform to all kinds of rules, goals and objectives, many of which they don't believe in. Teachers don't work together; there's very little sense of collective learning going on in most schools.

By the way, I also disagree with your assumption that schools are institutions of learning for students.

Why is that?

We say school is about learning, but by and large schooling has traditionally been about people memorizing a lot of stuff that they don't really care too much about, and the whole approach is quite fragmented. Really deep learning is a process that inevitably is driven by the learner, not by someone else. And it always involves moving back and forth between a domain of thinking and a domain of action. So having a student sit passively taking in information is hardly a very good model for learning; it's just what we're used to.

Let's look at adult learning first. We do have staff development programs to help educators improve their skills, to become more knowledgeable. Are these kinds of efforts misguided?

No, but they're far from supporting the kinds of learning organization I'm talking about. The traditional approach to helping

educators learn has been to develop the skills of individuals to do their work better. I'm talking about enhancing the collective capacity of people to create and pursue overall visions.

Obviously, the educational enterprise is ultimately about kids learning. But we must also give systematic attention to how teachers learn. And by learning, I don't mean sending them away to off-site conferences. I'm not saying they shouldn't ever do that, but learning is always an on-the-job phenomenon. Learning always occurs in a context where you are taking action. So we need to find ways to get teachers really working together; we need to create an environment where they can continually reflect on what they are doing and learn more and more what it takes to work as teams.

Can you say more about the difference between the individual learning that a teacher might do and this notion of a team or an entire organization learning?

Well, it's like the difference between a bunch of individuals who are good basketball players and an outstanding basketball team. Or a musical ensemble that has a lot of great musicians but sounds pretty mediocre. There is always a huge difference between individual capability and collective capability and individual learning and collective learning. But this is rarely reflected in how schools are organized, because education is so highly individualistic. Many people are advocating cooperative learning for kids, but the idea that teachers and administrators ought to learn together really hasn't gone too far.

The fragmentation that exists in the education process is extraordinary. Part of it is embedded in our theory of knowledge. Our theory of knowledge puts knowledge in cubbyholes; in our society we consider an expert to be someone who knows a great deal about very little. So part of the problem here has to do with very deep issues regarding the fragmentation of knowledge and our incapacity to really integrate.

A second dimension of the problem is that educational institutions are designed and structured in a way that reinforces the idea that my job as a teacher is as an individual teaching my kids. I have literally heard teachers say, "When I close that classroom door, I'm God in my universe." This focus on the individual is so deeply embedded in our culture that it's very hard for people to even see it.

Many people are advocating cooperative learning for kids, but the idea that teachers and administrators ought to learn together really hasn't gone too far.

You cannot implement "learner-directed learning," for example, in one classroom and not others. It would drive kids nuts.

Teachers might feel that, because it would take so much collaboration to bring about any kind of systemic change in education, they're better off trying to improve what goes on in their individual classrooms.

Our unit of innovation has usually been the individual teacher, the individual classroom, or a new curriculum to be implemented individually by teachers. But the larger environment in which innovation is supposed to occur is neglected. So few innovations stick. Either a teacher moves away, or a teacher who successfully innovates becomes threatening to those around him or her.

Significant changes in the content and process of education require coordinated efforts throughout a school: you cannot implement "learner-directed learning," for example, in one classroom and not others. It would drive kids nuts, not to mention the stress on the individual teacher.

So there's absolutely no choice but trying to create change on multiple levels. Yes, there needs to be fundamental innovation in the classroom. Yes, you're got to find and support these teachers who are really committed to that. And no, it's completely inadequate by itself, because you have to be working simultaneously to create a totally different environment in the classroom, in the school, in the school system, and eventually in the community. And that's why it's not easy.

Our fundamental challenges in education are no different than in business. They involve fundamental cultural changes, and that will require collective learning. They involve people at multiple levels thinking together about significant and enduring solutions we might create, and then helping those solutions come about.

What is it about education, compared to businesses or other organizations, that makes it so hard to support the kind of collective learning you're talking about?

The education enterprise is especially complicated because not only does the organization have different levels, it's very stratified. You've got teachers, principals, off-site administrators, school board members. I'm not convinced many of them see themselves as having a lot of power. One characteristic of an organization that has very low ability to learn is that people at all levels see themselves as disempowered; they don't think that they have leverage to make any difference.

Last but not least, this whole enterprise is embedded within the community. So it's an extraordinarily complex organization and very stratified, very fragmented. And so it really should come as very little surprise that it's almost incapable of innovation.

You're familiar with some schools that really do exemplify certain traits of learning organizations. What's going on in them?

In schools where I've seen really significant innovations that have endured, they're usually, grown out of people from these multiple constituencies working together. It's been a few committed teachers with some bright ideas, in concert with a principal who has a particular view of her or his job, in concert with a superintendent who is in line with that principal, and in concert with people in the community who are very much part of the innovation process.

How do principals and other administrators in schools we would call "learning organizations" view their roles?

The principals I know who have had the greatest impact tend to see their job as creating an environment where teachers can continually learn. Then, in turn, I believe the job of the superintendent is to find principals and support principals who have that attitude.

Suppose you were chosen to be the principal of a school. What would you do first to make that school more of a learning organization?

I'd find the teachers who really had some commitment to doing something different. I don't think a principal can "establish an environment" in a vacuum. But a principal can pull together a group of people who really could start to establish an environment. And they have to have some idea of what they are trying to do, and some real commitment and passion to do it. Now you wouldn't expect to find a lot of people at the start. In any system, you find most people basically trying to cover their asses and preserve the status quo. That's true in all organizations.

I don't think a principal can "establish an environment" in a vacuum.

So the very first thing I'd do would be to find ways to start to get those who are committed to doing things differently talking to one another. Then the next step is to start to design a process that would be inclusive. You have to start with the people who are ready to start, but your goal is always to create the most inclusive

Actually having shared visions is so profoundly different from writing a vision statement that it's really night and day.

process possible, to involve people at all levels, including the kids, in envisioning where they really want the school to go. That's the cornerstone. But it's also very challenging to start an ongoing visioning process, which is very different from some group of people going off and writing a "vision statement."

They feel thwarted.

That's absolutely right. You know the old saying: scratch the surface of a cynic, and you'll find a frustrated idealist. Nonetheless, this sense of personal purpose is still a huge potential asset, because if you dig down deep enough, you'll find that sense of purpose and deep caring in the most hardened cynic. Education is standing in a gold mine in this respect.

How do you mine it? The process always involves two dimensions. One is creating a reflective environment and a degree of safety where individuals can rediscover what they really care about. And the second dimension is to bring those people together in such a way that their individual visions can start to interact. We communicate our individual visions to one another and eventually start to create a field of shared meaning — where there really is a deep level of trust and mutual understanding — and we gradually begin to build a shared vision. Actually having shared visions exist is so profoundly different from writing a vision statement that it's really night and day. It takes a long time, and it's a process that involves a lot of reflection and a great deal of listening and mutual understanding. It always involves those two dimensions.

Some people are skeptical of this whole "vision" idea. Those who have been through "visioning" sometimes feel that it's a contrived exercise, a diversion from their real work, and not an especially potent process.

The problem is that usually it's not a process; it's an event. We all go off and write a vision statement and then go back to work. It's absolutely pointless; it can even be counterproductive because people think, "we've done the vision stuff, and it didn't make any difference." For anybody really serious in this work, you'll spend 20 to 40 percent of your time—forever—continually working on getting people to reflect on and articulate what it is they're really trying to create. It's never ending.

Many educators are interested in your ideas. Do you work with schools very much?

Actually, I don't. I spend all my time with the MIT Center for Organizational Learning, which works with corporations. That's just a practical matter of where we feel we must concentrate our efforts at this time.

There are some exciting changes being led by educators, though. There's a growing network of educators around the country interested in systems thinking in education. There is a networking organization called the Creative Learning Exchange in Action, Massachusetts, which does nothing but keep track of who is doing what in schools all around the country, and they make that information available. There's also an annual conference on systems thinking in education.

From what you have heard about how schools have tried to work on your theories, are some common themes arising?

One of the commonalities in our work is a recognition of the deep fragmentation of the educational process, and the belief that too often we fail to capture the imagination and commitment of the learner in the way any real learning process must.

We see an enormous need to integrate systems thinking as a foundation for education for kids. So, many of the changes in curriculum and pedagogy involve bringing the systems perspective into the mainstream of education, because people today must be able to make sense of systems, to learn how to use knowledge in ways that cross disciplinary boundaries. You know, they used to say that school could teach somebody 80 percent of what they need to learn in their lifetime. Today that figure would probably be more like 2 percent. Schools need to focus on thinking skills and learning skills, because those are what will prepare kids for a world of increasing interdependency and increasing change.

Schools need to focus on thinking skills and learning skills, because those are what will prepare kids for a world of increasing interdependency and increasing change.

One of the interesting things about our work on systems thinking, mental models, dialogue, and personal mastery is that it has almost as much relevance from a curricular and pedagogical standpoint as it does from a managerial standpoint. So it's a bit different from other efforts to change management practices in schools.

A learning process is a process that occurs over time whereby people's beliefs, ways of seeing the world, and ultimately their skills and capabilities change.

Education is famous for fads and quick fixes. What do you say to people who want to know how to apply your ideas right away?

I say forget it. Nothing will change, no matter how fascinated you are by a new idea, unless you create some kind of a learning process. A learning process is a process that occurs over time whereby people's beliefs, ways of seeing the world, and ultimately their skills and capabilities change. It always occurs over time, and it's always connected to your domain of taking action, whether it's about relationships or about your professional work. Learning occurs "at home," so to speak, in the sense that it must be integrated into our lives, and it always takes time and effort.

That's the whole reason for emphasizing this notion of 'disciplines.' And discipline means commitment, focus, and practice. Most things that really matter in life take discipline and years of practice. But the concept of discipline has really drifted out of our culture. We've come to believe that anything we need that's important, we can go out and buy.

This is not true in other cultures. There's a very deep appreciation for discipline and the idea that learning occurs over time. In fact, the very term learning in Chinese is made up of two symbols. One translates as "study," to take in new information or new ideas. The second is "practice constantly." You cannot think or say the word "learning" in Chinese without, in effect, thinking and saying "study and practice constantly."

Still, a lot of people must have wondered what to do with the Fifth Discipline, successful as it was.

The *Fifth Discipline* was never meant to be a practical book; it was never meant for a large audience. It was actually written for people who were already involved in this work and wanted something serious to deepen their understanding of the underpinnings of what they were doing. It's been a big surprise to see how many have bought the *Fifth Discipline*. I'm sure many of them read it for 20 minutes and say, "Well there's nothing I can do with this," and set it aside.

The Fifth Discipline Fieldbook seems more accessible for those who want some ideas about how to get started.

The *Fieldbook* is a much more appropriate starting point for most people. It is full of short sections that provoke the reader to think

about how to manage a visioning process or develop the capacity of a group of people to function as a team. It has more than 50 contributors, most of whom are practicing managers, and it's like a catalog. It's people writing about their stories, sharing their tips, what they learned from practical experiences. I would like to see a version eventually that draws primarily from examples in education. But right now, I don't think there is a big enough community of practitioners to do that.

That would be helpful. Educators are sometimes skeptical about examples from business. They feel such examples don't necessarily apply to an organization whose "products" are people.

Well, I think there's some validity in that viewpoint. In some ways, innovation in education really is much more challenging than it is in business, because educators have these multiple constituencies I spoke of earlier. And, yes, the "product" of education is human beings who can be happy, continue to learn throughout their lives, and contribute to society.

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On the other hand, we feel that our work does apply to education. Many educators are picking up these two books and seeing that this work is not about business. It's about how human beings learn, and about the new ways we will need to think and interact in the 21st century, in a world characterized by increasing interdependence. There is really nothing intrinsic in any of the basic disciplines, for example, that distinguishes business from education. You can make pretty compelling arguments that systems thinking, building a shared vision, dialogue, and learning how to reflect on our mental models are, at some level, educational undertakings more than business undertakings.

That's the reason that in fact there has been so much of a crossover, even though The Fifth Discipline was not written for an education audience. People seem to have little difficulty translating the principles, tools, and methods, for use in education. ■

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Peter Senge *is Director of the Center for Organizational Learning at the Massachusetts Institute of Technology's Sloan School of Management, 30 Memorial Dr., Cambridge, MA 021142.*

John O'Neil *is Senior Editor of Educational Leadership.*

Towards A Learning Organization

Zoe Boon

Below is a summary of what a learning organization is as propounded by Peter Senge in his book ***The Fifth Discipline : The Art & Practice of The Learning Organization.*** *This book provides powerful insights into our attitude towards systems thinking, personal growth, and work.*

According to Senge, learning organizations are organizations 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 (p. 3). Learning organizations are possible because not only is it our nature to learn but we love to learn.

As our world becomes more interconnected and business becomes more complex and dynamic, work must become more "learningful". It is no longer sufficient to have one person learning for the organization. The organizations that will truly excel in the future will be those that discover how to tap people's commitment and capacity to learn at all levels in an organization.

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Senge noted that over the years, learning organizations have been *invented*, but they have *yet to be innovated.* (An innovation is seen only when it can be replicated reliably on a meaningful scale at practical costs). For innovations in human behavior to take place, a body of theory and technique or "disciplines" must be studied and mastered to be put into practice. This constant practice requires us to be lifelong learners. Hence, one can never say, "We are a learning organization", for to say so would imply that the organization has "arrived". This is not the case as we ought to spend our lives mastering disciplines.

Senge identified five vital disciplines that work towards innovating learning organizations – those that can truly 'learn', those that can continually enhance their capacity to realize their highest aspirations:

Mental Models

Mental models are deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action. Generally, we are not consciously aware of our mental models or the effects they have on our behaviour. They can shape our perceptions of problems, challenges and opportunities, resulting in high-leverage changes or degenerative and counter-productive actions. Hence, mental models can either help us become more effective or conversely, may limit the growth of organizations with its inertia.

Building Shared Vision

This refers to the capacity to hold a shared picture of the future we seek to create. It is translated in the form of goals, values, and missions that become deeply shared throughout the organization. Such shared vision bind people together around a common identity and a sense of destiny. When there is a genuine vision (as opposed to the all-too-familiar "vision statement"), people excel and learn, not because they are told to, but because they want to. The practice of shared vision involves the skills of unearthing shared "pictures of the future" that foster genuine commitment and enrollment rather than compliance.

Personal Mastery

The ability to focus on ultimate intrinsic desires, not only on secondary goals, is a cornerstone of personal mastery. This discipline of personal mastery starts with clarifying the things that really matter to us, of living our lives in the service of our highest aspirations. This discipline of continually clarifying and deepening our personal vision work towards a focusing of our energies, developing patience, and seeing reality objectively.
Personal mastery is an essential cornerstone of the learning organization. There is a strong connection between personal learning and organizational learning, in a reciprocal commitment between individual and organization. People with a high level of personal mastery are able to consistently realize the results that matter most deeply to them — they approach their life as an artist would approach a work of art. An organization's commitment to and capacity for learning can be no greater than that of its members.

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Systems thinking is a conceptual framework, a body of knowledge and "tool" that helps us to see the full patterns clearer.

Team Learning

Team learning is essential because teams, not individuals, are the fundamental learning unit in modern organizations. Unless teams can learn, the organization cannot learn. The discipline of team learning starts with "dialogue", a term that refers to the capacity of members of a team to suspend assumptions and enter into a genuine "thinking together". It requires a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually. The discipline of dialogue involves learning how to recognize the patterns of interaction. More often than not, the patterns of defensiveness are deeply ingrained in how team operates. If recognized and surfaced creatively, they can actually accelerate learning. However, if unrecognized, these patterns of defensiveness can undermine learning.

Systems Thinking

All events in space and time are connected within the same pattern, each having an influence on the rest; an influence that is usually hidden from view. As part of the whole pattern of change, we tend to focus on snapshots of isolated parts of the system, and wonder why our deepest problems never seem to get solved. Systems thinking is a conceptual framework, a body of knowledge and "tool" that helps us to see the full patterns clearer.

Systems thinking is, in fact, the fifth discipline that integrates and fuse the other four disciplines into a coherent body of theory and practice. By enhancing each of these disciplines, one can see that the whole can exceed the sum of its parts. Building shared vision fosters a commitment to the long term. Mental models focus on the openness needed to unearth shortcomings in our present ways of seeing the world. Team learning develops the skills of groups of people to look for the larger picture that lies beyond individual perspectives.

At the heart of a learning organization is a shift of mind – from seeing ourselves as separate from the world to being connected to the world, from seeing problems as caused by someone or something "out there" to seeing how our own actions create the problems we experience. A learning organization is a place where people are continually discovering how they create their reality.

Senge cautioned that in reality, organizations tend to be constrained by seven learning disabilities that lead to people

having to live with their consequences. These seven learning liabilities may be noted as follows:

1. "I am my position" — people tend to see their responsibilities as limited to the boundaries of their position. When something goes wrong, people in the organization assume that it is caused by someone else.

2. "The enemy is out there" — this syndrome is a by-product of "I am my position", reflecting a nonsystemic way of looking at the world.

3. The illusion of taking charge — being proactive against an external enemy may turn out to be "reactiveness" in disguise. According to Senge, true "proactiveness" comes from seeing how we contribute to our own problems. It is a product of our way of thinking, not our emotional state.

4. The fixation on "Events" — focusing on events only leads to "event" explanation. In reality, the primary threats to our survival, both of our organizations and of our societies, come not from sudden events but from slow, gradual processes. Generative learning cannot be sustained in an organization if people's thinking is dominated by short-term events. If we focus on events, the best we can ever do is predict an event before it happens so that we can react optimally. But it does not help us learn to create.

5. The parable of the boiled frog — This parable goes as follows: If you place a frog in a pot of boiling water, it will immediately try to scramble out. But if you place the frog in room temperature water and gradually turn up the temperature, the frog will do nothing and in fact will sit there and boil. This is because the frog's internal system for sensing threats to survival is geared to sudden changes in his environment, not to slow, gradual changes. Similarly, learning to see slow, gradual processes requires slowing down our frenetic pace and paying attention to the subtle as well as the dramatic changes.

6. The delusion of learning from experience — The most powerful learning comes from direct experience. Although we learn best from experience, we never directly experience the consequences of many of our most important decisions. The most critical decisions made in organizations have system-wide consequences that stretch over years or decades.

According to Senge, true "proactiveness" comes from seeing how we contribute to our own problems. It is a product of our way of thinking, not our emotional state.

Therein lies the danger of breaking up cyclical events into components just so that people can grasp and analyze only in the short term.

7. The myth of the management team — together a collection of experienced managers who represent the organization's different functions and areas of expertise are supposed to sort out the complex cross-functional issues that are critical to the organization. In reality, teams do fall into the trap of maintaining the appearance of a cohesive team. To keep up this image, they avoid disagreement and fail to reveal the underlying differences in assumptions and experience in a way that the team as a whole could learn. Argyris (1978) observed that most management teams break down under pressure. They may function quite well with routine issues but when confronted with complex issues that may embarrass or threaten the "teamness", things may not be the same.

Senge advocated that the five disciplines of the learning organization can act as antidotes to the learning disabilities as noted above. However, practising a discipline is different from emulating a model. Senge envisaged that as the five learning disciplines converge, they will not create *the* learning organization but rather a new wave of experimentation and advancement. It is therefore important that the five disciplines develop as an ensemble, requiring an integration of new tools rather than simply applying them separately. ■

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***Zoe Boon** is the Principal of Merlimau Primary School.*

The Leader's Role In Developing Learning In The Organization

Dr Cliff Bunning

Why the emphasis on organizational learning?

The world is presently in the midst of a major transformation which has been called the Third Industrial Revolution. Just as the First Industrial Revolution involved the use of coal to power newly invented steam engines, and the Second Industrial Revolution was driven by the discovery of electricity and the invention of electrically powered machines, so the Third Industrial Revolution has, at its heart, the invention and development of computing power. This current revolution, which has a long way yet to fully unfold, is transforming the world in ways even more fundamental than the previous two revolutions.

The Age we are moving into has been labelled the Knowledge Age, because it is the creation, transfer and utilisation of new knowledge which is now the basis for sustainable competitive advantage, and makes possible continuous improvement and regular, paradigm-changing innovation in organizations. This is now a world-wide trend and affects business corporations, government departments and non-profit organizations equally.

So organizational learning has risen to prominence in the 1990s because it is the body of theory and practice that deals with the creation, transfer and utilisation of new knowledge aimed at improving organizational performance.

Why focus on the leader's role?

Organizational learning, like other aspects of organizational performance, does not just happen; it needs to be deliberately created; fostered and maintained by managers at every level, from the Chief Executive Officer to the humble supervisor. All are needed to act as leaders in the new paradigm organization; and one aspect of that leadership role is the promotion of organizational learning and innovation.

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When you encourage vision directed thinking, your people are drawn along by the challenge of what could be, and in getting involved in new strategies to achieve that vision, a much higher rate of learning is likely to occur.

In this paper nine tasks that the leader needs to carry out in order to develop learning in their organization will be addressed.

1. **Be an active learner yourself**

   Too many "leaders" say all the right things, but act in ways quite incompatible with what they advocate for others. If you actively seek learning from the flow of your own, personal everyday experiences, you will achieve two benefits:

   - You will demonstrate that you believe what you say, and so serve as a role model, avoiding the creation of a credibility gap.
   - You will actually improve your own strategies and performance, because of creating your own virtuous circle of learning.

2. **Encourage vision-directed thinking**

   If you and your people are basically problem oriented in your approach, most energy is spent on getting rid of undesired situations. Little learning takes place in such circumstances. When you encourage vision directed thinking, your people are drawn along by the challenge of what could be, and in getting involved in new strategies to achieve that vision, a much higher rate of learning is likely to occur.

3. **Foster workplace learning**

   The main source of organizational learning is the flow of experiences that occur within the work environment. But this learning doesn't happen automatically. Workplace arrangements such as challenging assignments, team based operations, time set aside for structured reflection etc can greatly increase the amount of learning which occurs.

   The enemy of learning is paradoxically, action. So if there is a constant pressure for activity and results, then this tends to relegate learning to 'a good thing if you have some spare time", rather than a strategic priority. So leaders at every level in the organization must establish learning as a significant work goal, worth the necessary time and attention.

4. **Develop active links with your external environment**

Good ideas don't just come from staff, they also exist in the external environment. Attending conferences, fostering personal networks, inviting guest speakers, interacting with other parts of the organisation, encouraging activity in professional associations, surveying customers, monitoring competitors, reading journal articles and new books and surfing the World Wide Web are just some of the ways in which you and your people can find out what others are thinking and doing.

Organizations determined to maximise their organizational learning establish environmental scanning systems so that all major sources of new ideas are regularly activated or monitored by one or other of the staff.

5. **Focus on medium-term goals**

Just as too much emphasis upon action can be detrimental to learning, so a strong emphasis upon short-term work priorities encourages a pragmatic action focus, typically associated with a problem orientation, as described in point 2.

Learning occurs most in an environment which is not just survival oriented but is aimed at medium term goals, so that there is time to think; time to explore new ideas; time to innovate; and time to learn.

6. **Create a climate in which it is safe to think**

The traditional organizational climate values getting things right the first time, doing things the way they have always been done, and not "upsetting the apple cart" by wanting to change things unnecessarily. This organizational climate is quite destructive of new ideas, and needs to be replaced by a mindset which deters initial judgement in order to explore the potential of new ideas, encourages sensible risk taking, doesn't regard a failure as a failure unless nothing is learnt from the unsuccessful experience, and is curious and open to radical new ways of looking at familiar situations.

7. **Encourage teamwork and synergy**

We are rapidly moving towards a situation in which organizations are no longer seen as consisting of individual

We need a "…. a mindset which deters initial judgement in order to explore the potential of new ideas, encourages sensible risk taking, doesn't regard a failure as a failure unless nothing is learnt from the unsuccessful experience, and is curious and open to radical new ways of looking at familiar situations.

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positions, but as groups of people who each have to co-operate and collaborate in order to create some product or service.

But the challenge for a high performing organization is to transform those groups into teams, so that genuine synergy is created. If this is achieved, organizational learning will be at its maximum, as people interact in positive and creative ways whilst working together.

8. **Make your work community an exciting place to be a part of**

How do your people feel on Sunday evening? Keen to get back to work or depressed at the thought of it? Work should be life enhancing such that one feels affirmed as a human being by the experience and, indeed, expanded by the experience.

Such a vision can be achieved, but it has to first be believed in, and then a thousand large and small things done to create a vital community of thinkers and doers. Leadership is about causing extraordinary things to be created by ordinary people, it is all in how they are led and focused.

9. **Have a fast track system for implementation**

Good ideas are not enough. They have to be translated into changes in operational practice. Empowerment and flatter organizational structures speed application of ideas because there are fewer people to consult about any proposals for change.

For ideas which would be costly to implement or involve significant risk, the use of controlled experiments or pilot projects can be useful way to move forward. For major innovation, good change management and project management increase the likelihood of success.

Where to from here?

The worst thing a leader can do is agree with these strategies for organizational learning, but then never get around to doing anything of significance. Such an omission is not accidental, nor is it caused simply by pressure of work. It comes, more typically, from a lack of courage and self-confidence to grasp the nettle,

and take the risk of being a real leader, and leading the part of the organization one is in charge of into a new future.

So the first step is to reflect upon the nine tasks outlined here, and form your own vision and priorities from them, made up of those things which you have personal commitment and energy for. Then consult with your immediate team and work out a strategy for moving forward. And do it within a few days of reading this paper or you will very likely not do it at all. ■

Dr Bunning *is on organizational consultant and Director of Synergies Pty Ltd. 12 Maud Street, Sunnyback, 4109, Australia. He works regularly in Australia, New Zealand, Singapore and Papua New Guinea. Cliff is contactable on bunning@gil.com.au or facsimile 61 (0)7 3344 4574.*

Principals and How They See Their Work

Low Guat Tin, Susan Morriss

Introduction

Work is a four letter word and often times this "dirty" word is a very important element of our lives. Many do not grasp the significance of "work". Psychologists have found that when people find meaning in their work, then work is looked at in different perspectives. It is no longer a drudgery, hours that must be slaved away. Work is no longer a "dirty" word. And people do get excited about work.

We recently met with eleven female secondary school principals and did hour long, sometimes two-hour long, interviews with them to find out what work and management means to them. The interview included questions on educational background, career path and influences, perceptions of success and discrimination, and style of management.

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Why did we focus our study on female principals? Well, the interviews are part of a larger cross cultural study being conducted with our counterparts in other parts of the world. Secondly, it is a very encouraging fact that 53 percent of Singapore's secondary school principals are females (MOE, Education Statistics Digest, 1997) and we want to find our what makes them tick – these women with multiple responsibilities.

The lucky eleven?

These eleven female secondary school principals were picked through a stratified random sampling process – just your typical lucky draw. Hopefully, the principals did not feel that process was an unlucky draw. The principals represented a range of background and experience with ages ranging from 35 to 55 years. Eight were married with children. The majority had been principals from 3-4 years with one having just been promoted. They all headed government schools.

What did we find?

The interview data showed many interesting facets about the principals and what they thought about their work and their management style. In this paper, we want to highlight a few areas that were consistent among the principals and seem important to share.

1. A passion for their work

For a start, we found the majority to be passionate about their work. They were committed to the profession, committed to "do that much more for the children", committed "to touch lives and make the difference for them". They were prepared to work long and hard, including Sundays and holidays. They displayed a great capacity for work. They enjoyed their work and for many, the work was consuming. One said that "all I know is we work very, very long hours. . . you can't even do your planning in school... there are days when I come in at 7 and go home at 7". Another said:

> To be an effective leader one must be very passionate about what you do and you must be able to give that passion to the teachers. And I am an energiser, and sometimes the teachers ask, where do you get all the energy from? It just comes naturally, because if you have a passion for what you do, and the conviction, you will give total commitment. That is very valuable.

2. A desire to nurture self-discipline

Many were very demanding of themselves and others too.

> I've been told that I'm very humane and very caring – that is the caring part. But they also know that when I want a task completed, it has to be completed – no nonsense about that. I'm very particular about time frames, deadlines, and quality of work.

> The most important thing is self-discipline among both my staff and pupils. Where staff is concerned they will know what the commitment to the pupils will be and also commitment to themselves...

They were disciplined and they demanded discipline from others. And being disciplined is an essential trait to those who want to succeed. According to Marriott, Sr., founder of the Marriott chain, "Discipline is the greatest thing in the world.

To be an effective leader one must be very passionate about what you do and you must be able to give that passion to the teachers.

The principals desired to work hand in glove with their management team and the rest of their staff, even though that may be difficult.

Where there is no discipline, there is no character. And without character, there is no progress." (Collins & Porras, 1994)

3. **A belief in teamwork**

These were women leaders who believed in working in teams. Like Stott & Walker, (1995) they saw teamwork as essential to an effective organization and they encouraged a collaborative environment. The principals desired to work hand in glove with their management team and the rest of their staff, even though that may be difficult, as evidenced by what they said:

> They [staff] fail to understand that teamwork means that even though and in spite of the fact that we are not alike, we can still work very well as a team to maximise each others' strengths.

> My HODs are not used to team decisions, they are used to one person's decisions, which is the principal in the past. I try very hard to bring them in and move them towards a team decision.

Others among them were more fortunate and more able to work with their staff as a team. "...the staff morale is very high, team building is very high with the teachers working together in a very collaborative, collegial way. They are able to discuss with each other on the pros and cons and they are very open about it. We work on what we call a very transparent system..."

One can understand why there is this emphasis on teams because research (e.g., Tjosvold, 1991) has consistently shown the benefits of having teams in the workplace. The positive synergy that is generated goes a long way to help members in the team. Working in teams also help to increase flexibility and quality in the workplace. Literature (e.g., Robbins, 1997) also indicates that to compete more effectively and efficiently, organisations have turned to teams in order to be better able to utilise employee talents.

Thus, these female principals, most of whom were trained in the National Institute of Education's Diploma in Educational Administration programme and have experienced working as a team with course participants throughout their year long training course, have realised the potential that can be gained by working as a team with their staff.

4. A keen support for their staff

We also found the eleven principals to be very supportive of their staff. They emphasised the importance of an open, supportive environment in the school. All the eleven principals stated that they have an open-door policy, making themselves easily available to staff and students. They are attentive to their staff and they practised the most important human relationship skill – listening.

> I listen a great deal...I enjoy working with my HODs...I like to believe that I am open and supportive, very supportive. I listen to my teachers, especially where their personal problem are concerned. And you come to understand that each teacher will have his or her own feelings...

> They can talk to me anytime, they will drop in. Of course, there are those who say they cannot find me, I have to leave school for cluster meetings and other meetings, so I asked them to leave me a note and I will make time to listen to them. I will go to them.

Another way in which they support their staff was the attention paid to the development of teachers and staff. The principals want to be involved in upgrading and updating their staff. They want to be "personally involved in their development to some extent..." Many are altruistic and would not hold back a good worker because of their selfishness, rather they would "...groom them...develop them and I assure them that if they are good, I will not be so selfish as to keep them. I will let them go and recommend them to another school."

These women identify good teachers, develop and stretch them and then recommend them for promotions. And in this respect, promotions are "...celebrated, I try to encourage certain people whom I think have the potential to move onward and upward." These women have the interest of the system at heart, so it is not just wanting their school to do well by retaining their best teachers, but rather the system should benefit. They are more than prepared to push them on to take leadership positions in other schools.

They are attentive to their staff and they practised the most important human relationship skill – listening.

What emerges?

As one looks at the picture that emerges of these eleven principals, it shows women who are excited and passionate about

". . . qualities such as empathy, warmth, genuineness, involvement and good communication are linked to school effectiveness."

their work; who care very much about their students and staff, and who strive to improve their school environment, as well as the educational system. This pattern presents components of a recognised and an effective leadership style.

Research (e.g., Frashner and Frashner, 1979) claims that "for thousands of years women have been conditioned to be *accommodative, compliant, other-directed, sensitive, nurturant,* compromising, patient and empathetic," and to the Frashners, these traits are increasingly associated with effective administration. To them, the typically male managerial mode is inappropriate in educational administration. In more recent times, Murgatroyd & Gray, (1984) and Mortimore, et al. (1993) have shown that qualities such as empathy, warmth, genuineness, involvement and good communication are linked to school effectiveness. The nurturing qualities identified in the female principals are seen as strengths of management.

And we know that our picture of school leadership can be painted across more than just eleven secondary schools. ■

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Dr. Low Guat Tin *is a senior lecturer in the Division of Policy and Management Studies, National Institute of Education*

Dr Susan Morriss *is a lecturer in the same division.*

Schools As Thinking Schools And Learning Organizations

Mrs Ding Seok Lin

Introduction

1. In June 1997, the Prime Minister in a speech to the 7th International Conference on Thinking, launched his vision for meeting the challenges of the 21st Century. This vision is encapsulated in four words, "Thinking Schools, Learning Nation" (TSLN). The Prime Minister said that the concept of Thinking Schools is central to this vision.

   "Every school must be a model learning organization. Teachers and principals will constantly look out for new ideas and practices, and continuously refresh their own knowledge. Teaching itself will be a learning profession, like any other knowledge-based profession of the future. ...Thinking Schools will be sites of learning for everyone, including those who shape our educational policies. Schools will provide lessons on how policies are working out on the ground, and give feedback on whether policies need to be changed. This process, of knowledge spiraling up and down the system, will be a defining feature of education for the future."[1]

2. Since then, there has been much interest in better understanding what a Learning Organization and Thinking School is, and how to go about becoming one. This is a process in collective learning. There is no proven working methodology to develop Thinking Schools. In this journey of discovery, we will have to exercise the skills required in the TSLN vision - ie look for new ideas and practices, and devise our own solutions to meet the needs of each school.

3. This paper shares my understanding to-date in my own journey of learning about Thinking Schools and Learning Organizations. These are personal views developed through working on Organization Development issues and through my current involvement in a project on "Thinking School, Learning Organization" with a secondary school.

Teachers and principals will constantly look out for new ideas and practices, and continuously refresh their own knowledge. Teaching itself will be a learning profession, like any other knowledge-based profession of the future

a Learning Organization is an organization where its people are continually learning, individually and collectively.

4. This paper does not provide a definitive process for building a Learning Organization. (There is unlikely to be any definitive method to build Learning Organizations. What may be available are frameworks and ideas which can be applied in different ways to support different needs.) The ideas in this paper are offered in the interest of collective learning to stimulate further conversations and reflection on these issues. Through this on-going process, we will build a clearer picture of the future we want to create in schools and in Education.

What is a Thinking School and a Learning Organization?

5. What is a Learning Organization? At its basic level, a Learning Organization is an organization where its people are continually learning, individually (i.e. each member) and collectively (i.e. at team and organizational level), to

   - better define and understand the future they desire to create,
   - better understand the issues related to this collective goal,
   - collectively discover new and better ways to resolve these issues and to achieve the desired goals.

   In other words, a Learning Organization is one where its people, over time, enhance their collective capacity to create the results or outcomes they truly want to create.[2]

6. A Thinking School is one where its stakeholders (mainly the teachers, students and parents, and also the community in which it belongs) are continually thinking about and working towards the desired outcomes they want to create together in and for the school. Almost by definition, a Thinking School must be a Learning Organization. In a Thinking School, its stakeholders

   - develop processes to individually and collectively articulate and clarify the future they want to build in the school
   - continually discover and implement new and better ways to achieve this goal
   - through these processes, develop a high level of inquiry and operate in an environment of open communications, open mindsets, trust and experimentation
   - have a high level of commitment, with meaning, purpose and a strong sense of belonging to the school.

A Possible Framework for Building a Learning Organization

7. I have identified four important building blocks to developing a Learning Organization:
   (a) People
   (b) Process
   (c) Skills
   (d) Systems and Structure

   These four areas are inter-related and interdependent - ie parts of each are found in the other, and they are only really effective when implemented together. What this means is elaborated below.

People

8. People are the foundation in any organization. Dee Hock, who was the CEO of Visa International in the 1970s when Visa experienced tremendous growth made this relevant observation:

   > "All organizations are merely conceptual embodiments of a very old, very basic idea - the idea of community. They can be no more or less than the sum of the beliefs of the people drawn to them; of their character, judgements, acts, and efforts... An organization's success has enormously more to do with clarity of shared purpose, common principles and strength of belief in them than to assets, expertise, operating ability, or management competence, *important as these may be.*"[3]

9. Any programme to enhance the quality of results of an organization needs therefore to address the quality of relationships of the people in the organization. Why this is important can be explained through the diagram below:

Any programme to enhance the quality of results of an organization needs therefore to address the quality of relationships of the people in the organization.

The process of relationship development which leads to higher quality of collective thinking among the people is what Organization Development is about.

10. The above illustrates the interrelationship between the quality of results (outcomes) and other variables.[4] Every organization has a vision and a purpose. Its business is to turn this vision into reality. How successful it is in this is determined by the quality of its results. But what determines results? Results are determined by the quality of the actions and strategies taken by the organization. In turn, the quality of actions is determined by the quality of planning which takes place. In many organizations, this is where the process stops. Hence when results are below expectations, officers are asked to work harder and/or the planning systems and processes are enhanced to generate better plans. However, it is often felt that the resultant improvements do not commensurate with the efforts put in.

11. The framework contained in the above diagram may provide one reason for this. It identifies the underlying factor determining the quality of planning, actions and results - the quality of collective thinking. In the case of a school, collective thinking refers to the ability of the school to harness the different ideas from the teachers and students (also, but to a lesser extent, the parents and other stakeholders) into a better collective understanding and agreement by all about the relevant issues at stake, of the goal they are reaching for and of the best ways of getting there. The key to enhance collective thinking is through enhancing the quality of relationships among the relevant stakeholders in the school. The process of relationship development which leads to higher quality of collective thinking among the people is what Organization Development is about. Many organizations in Singapore have tended to pay more attention to the other aspects of the loop - the strategy development aspect which is to refine and improve planning processes, strategies and action programmes. Turning organizational vision to reality requires attention to be paid to both aspects - Strategy Development and Organization Development.

Quality of Relationships

12. 5 levels of people relationships are identified as being important to enhance the quality of collective thinking in a school.

    - ***Personal Level*** - This is at the individual level of the principal, the teacher and the student. It starts with the individual because the individual is the basic building block in any organization.

For the leader and teacher, the issues relate to how he sees his role and contribution - i.e. if he can be the best leader and teacher, what sort of leader and teacher would he be, what values would he hold, what would be the things he would do. If these issues are settled within the individual, there is a sense of personal security and confidence. Similarly, the student has issues of personal mastery - i.e. the capacity to identify and to create desired results, ability to have self-control, level of self-esteem, motivation, sense of contribution and belonging to the school.

- ***Interpersonal level*** - This is between individuals: teacher-teacher, teacher-student, for example.
  The issues here are whether there is trust and respect between individuals and the quality of communication between them. A healthy level of trust and open communication will enable team members to better understand one another and contribute to team effectiveness. A precondition for building trust and openness is the trustworthiness of each member in the team, which relates back to the personal level.

- ***Team Level*** - This is between different teams, for example, inter departmental relationships, relationships between school leadership and teachers, between teachers and students. The issues here are trust, openness, and school culture. For example, are there mechanisms for inter-department sharing of information and learning from one another? In terms of relationship between the leaders and the teachers, is there trust and openness, of inter-dependency where each respects the role and contribution of the other?

- ***School level*** - The issues here are the clarity of the shared vision to the stakeholders and their level of commitment to this vision. The quality of staff and pupil welfare systems is also relevant here. If we expect the staff and pupils to care for the school, the school must show that it in turn cares for the staff and pupils.

- ***Inter-organization level*** - This refers to the relationship between the school and its external stakeholders - the Superintendent/Inspector, the Ministry of Education, the parents and the community. Is there a win-win partnership to work towards agreed goals?

A healthy level of trust and open communications will enable team members to better understand one another and contribute to team effectiveness.

In a Learning Organization, the leader's role is much more complicated. In the complex, dynamic and changing world, the leader is no longer able to know everything and have all the answers.

Any effort to build Learning Organizations needs to address the issues in these levels of relationships.

Role of Leaders

13. What role does the leader play in a Learning Organization? There is a misconception that in a Learning Organization everything is bottoms up and the leader is not very important. I believe the leader plays a critical role in a Learning Organization. However, it is different from current conventional thinking about leadership. In conventional thinking, the leader is seen as the one who issues the instructions, who knows everything and who makes all the decisions (a command and control model of leadership). In a Learning Organization, the leader's role is much more complicated. In the complex, dynamic and changing world, the leader is no longer able to know everything and have all the answers. The traditional top-down, command and control style of management is no longer effective. The school leader needs to have sufficient personal mastery to recognise this and to develop a sense of shared leadership especially with his Heads of Departments.

14. However, there are certain key roles which the leader is responsible for. In a Learning Organization, the leader's new roles[5] are as:

    i) an organization "designer" - i.e. he designs the broad framework of organization purpose and core values, and uses this as the foundation to work with his team to develop the details and translate them into implementable strategies. He also designs structures and systems which support the implementation of the vision on a day to day basis. If we use sports as an analogy, this is equivalent to drawing up the rules, purpose, organization and reward system of the game;

    ii) as a teacher - i.e. he builds shared vision within his team and with other stakeholders by holding on-going conversations to clarify and better understand both current reality and the future they want to create together. In Education, one of the leader's role in the school would be to help his school team understand how the various new education initiatives support the desired outcomes of the school, of education and of the country. Using sports as an analogy again, this is equivalent to the

coach, sharing with, teaching skills to and motivating the team members to better understand and play the game.

iii) as a "servant leader" - This aspect is more an attitude than an action. The traditional view of leadership is that the leader is served by those who work for him. A servant leader serves the needs of those he leads - in this case, the teachers and students - and the larger purpose of the school. He has a strong consciousness of the impact his leadership has on others. He models the desired attributes and behaviour to those he leads. A servant leader leads by example; who he is, is reflected by what he does, not just what he says.

Process

15. Enhancing the quality of relationships, especially those within the school, goes beyond just being aware of the issues involved. Relationship development can more effectively take place when it is rooted in a clear process, with clear definable actions. This is the process of Building Shared Vision and Shared Actions. Team members need also to be equipped with relevant tools and skills to help them better communicate with and relate to one another. The Skills aspect will be dealt with in the next section.

16. Every school has a vision statement. However, there is a difference between a vision statement and a shared vision. A vision has power to catalyse change in individuals and teams only when it is translated into a practical reality that can guide and affect both the strategic and the day-to-day activities of the school. For the vision to motivate and enthuse the teachers (and subsequently students), it has to be brought to a level of tangible and specific details which are reachable and "real" to them. Their involvement in such a process will help make the vision meaningful and alive to them.

17. At the school level, the review of the role and mission of the school can start off with the teachers reflecting on and answering the following questions :

    "What do we want most to help our students achieve? What is our highest and best vision for them when they graduate? What will inspire us as teachers as we work with them, their parents and each other? What would we be most proud of, if we could nurture this in our students?"

A servant leader serves the needs of those he leads - in this case, the teachers and students - and the larger purpose of the school. He has a strong consciousness of the impact his leadership has on others. He models the desired attributes and behaviour to those he leads.

The gaps between the current reality and the desired outcomes in these specific areas are the targets for change. They can be prioritised.

This enables the school team to pause, reflect on and collectively articulate the desired outcomes they want to develop in their students.

18. With the identified desired outcomes as the reference point, the team can then take stock of the current attributes of the student profile. The gaps between this current profile and the desired outcomes will provide the first articulation of student priorities. The school team can then identify the strategies needed to achieve them - eg. what kind of teachers and school leaders, in terms of skills, capabilities and attitudes does the school need, what kind of school programmes, curriculum (formal and informal) are needed, shared values, school organization, etc. This is summarised in Annex 1.

19. The gaps between the current reality and the desired outcomes in these specific areas are the targets for change. They can be prioritised. Project teams can be formed to analyse and develop implementable strategies to address them. These teams can be provided with team-based problem solving tools such as WITs to help them better understand the underlying issues, identify leverage points for action, develop appropriate indicators of success to monitor progress, and allocate responsibility to relevant departments and individuals. They should also be provided with communication and dialoguing skills to help them learn how to listen and how to share ideas. This is where skills training is effectively integrated to meet the needs of the Thinking School. (See next section on Skills.)

20. While these project teams create the structure and process to clarify the school's shared vision, real change and transformation can only take place when we are prepared to question how we think, see and interpret "reality". Albert Einstein said, "The world we live in is a product of our thinking; it cannot be changed without changing our thinking." Our beliefs and assumptions make up our internal pictures and mental models of the world around us. In schools, the key elements of reality relate to how teachers think about and see their students, the role of teachers and the process of learning and teaching itself. For the vision to be translated into action, the school team needs to identify their existing assumptions and belief systems and understand how these impact their behaviour and responses. They can then see how their belief systems support or hinder the progress

towards identified goals. Very often, our assumptions and beliefs are hidden so deep within us that we may not be aware of them. Some of these could be made explicit through clarifying comments made in project team meetings or from data obtained through student and teacher surveys.

21. In addition to a clear shared vision and clarification of belief systems, the school team needs to have a healthy recognition of current reality, no matter how "dark" this is. It is only through identifying the gaps between current reality and the desired future in each tangible element of vision, that we are able to identify the priority areas for change and implementation. The challenge then is to manage the opposing forces of emotional tension (fear, frustration, weariness) and creative tension (desire for a better future, hope) and harness the team forward into implementation. One way to harness the creative tension is to involve key stakeholders - school leaders, teachers, students and parents - in the process and to identify reachable step-by-step milestones which will lead to the target. The team will gain confidence as they progressively reach these milestones.

22. The process of building shared vision is an ongoing one. It does not finish with the identification of priorities and programmes. These priorities and programmes provide the basis for the school team to develop relevant feedback and monitoring systems to align vision with day-to-day actions and behaviour. They also provide the basis for the stakeholders to hold ongoing conversations to better clarify and understand the future the school wants to create and the issues related to this. These conversations can be held in ordinary events such as school assemblies, Contact Times or in specially created forums. Through this constant sharing, clearer shared images of the future the school seeks to create will be formed, enhancing the sense of understanding and commitment. As the school team does this, it will discover new revelations which will lead to better collective understanding and clarity, which in turn will lead to better actions and better outcomes. This ongoing cycle of progress monitoring, feedback, self-discovery, understanding, refinement and improvement is an essential characteristic of a Thinking School and a Learning Organization.

This ongoing cycle of progress monitoring, feedback, self-discovery, understanding, refinement and improvement is an essential characteristic of a Thinking School and a Learning Organization.

Building a Learning Organization also involves equipping the school team with relevant skills and tools which help them to better relate to, communicate with and learn from one another.

Skills

23. Building a Learning Organization also involves equipping the school team with relevant skills and tools which help them to better relate to, communicate with and learn from one another. A Learning Organization needs to develop three core competencies among its people - Aspiration (the capacity for a creative rather than a reactive orientation), Generative Conversation (the capacity to hold meaningful conversations which raise the collective understanding and learning in the organization) and Understanding Complexity (the capacity to see larger systems and forces at play and to construct explicit ways of expressing these views). The following five disciplines provide specific skills and tools to help team members build up these competencies:

    - ***Personal Mastery*** - The ability of each individual in the organization to clarify, articulate and create what is important to him

    - ***Building Shared Vision*** - The ability of the team to develop shared images of the future they want to create together, and the principles and strategies by which they hope to get there (This was elaborated in the section on Process)

    - ***Mental Models*** - The ability to surface, reflect, clarify and improve our internal pictures of "reality", and understand how these shape our actions and decisions

    - ***Team Learning*** - The ability to transform and enhance the quality of conversation and collective thinking through use of communication and dialogue tools

    - ***Systems Thinking*** - The ability to see how different variables are inter-related, how they impact an issue and where the points of leverage for action are.[5]

24. These skills can be acquired during the process of building shared vision through use of specific tools, and at separate training workshops. For example, the 7 Habits of Highly Effective People is a useful programme for developing personal mastery. Scenario Planning, which is used in the Civil Service, is a tool for clarifying our assumptions of the world we live and operate in. Adventure Learning is used by many organizations, including several statutory boards,

as an effective programme for team building and team learning. Communication and dialoguing skills programmes can help team members learn how to listen to, share ideas with and learn from one another. WITS and other systems archetypes are the main skills used for systems thinking. Each school will need to design the training and development programme which best supports its needs and priorities.

25. A word of caution though. It is easy for skills and tools to degenerate into ends in themselves, when they are only the means to help us more effectively achieve our desired results. It is also easy for organizations to mistake training for change management. Many organizations have the assumption that all that is necessary for change to take place is to send people "to be trained". One way to avoid this trap is to use and apply the skills and tools in the process of building shared vision and in existing processes in the school - eg departmental and work review meetings. These skills will then be integrated in existing programmes, and in day to day communication and activities. School leaders play an important role in modeling the practice of these skills in their interaction with their staff and students. Through consistent application of the skills, change and transformation will start to take place as individuals and teams begin to change the way they relate to one another and the way they think about, see and understand issues.

26. In addition, in the context of a school, there are specific skills related to the roles of teachers in Thinking Schools. School teams need to reflect on the new and different roles and attributes which teachers need to develop to achieve the desired outcomes for their students. While these will differ from school to school, one key change which is common to all schools is the shift in the traditional role of teachers as providers of knowledge to their role as learning facilitators. Teaching content and methodologies will be more learner-centred. The focus will be on learning how to learn, and on responding to the multi factors affecting students' learning. Teachers will need to develop competencies in developing new and better ways to help students discover knowledge and would need to equip themselves with the necessary skills to do this well. The 5 skills described above provide one set of such tools. In addition, technical skills in new and useful pedagogical methods and learning theories would be required.

Many organisations have the assumption that all that is necessary for change to take place is to send people "to be trained".

Having a compelling vision can start the process of change, but if existing structures do not support the vision, the change is unlikely to be sustained.

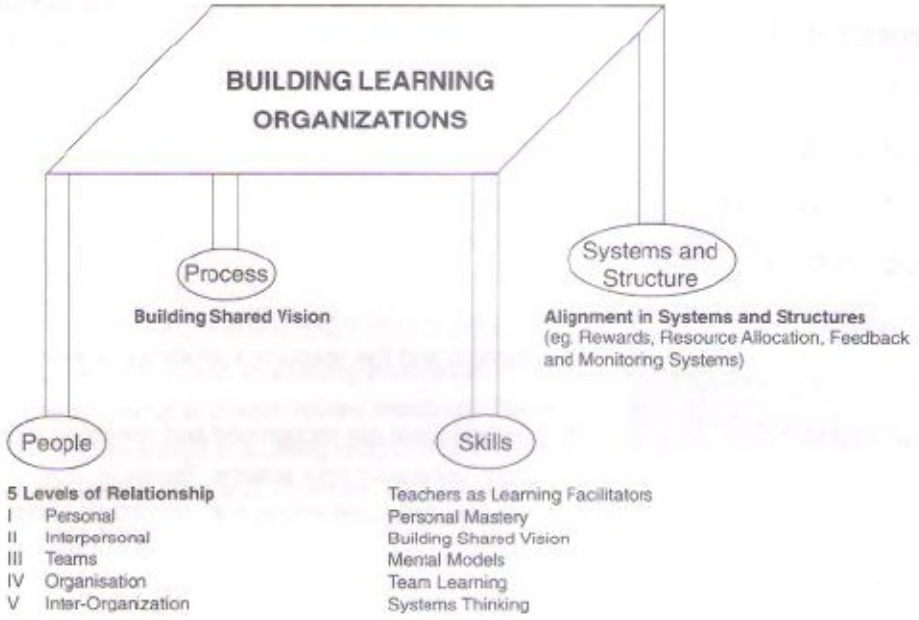
Systems and Structure

27. Structure in this context is not limited to the organization structure. Structure is concerned with the interrelationships between key variables which influence behaviour over time. These usually relate to the system of rules, roles, and relationships which control the way time, people, space, knowledge and technology are used and deployed. In a very real sense, structure drives behaviour, and if we want to sustainably change patterns of behaviour, we need to change the underlying structures which produce those behaviours. Having a compelling vision can start the process of change, but if existing structures do not support the vision, the change is unlikely to be sustained. There are two key systemic structures in organizations which have a profound impact on behaviour. They are the rewards/recognition system and the resources allocation system.

28. How people are recognised and rewarded directly impacts their behaviour and actions. Similarly, how resources are allocated also determine the way people behave and act so that they get their share of the resources. These systems must therefore be designed to support the goals and desired outcomes of the shared vision so that behaviours and actions will accordingly be aligned. The rewards and resource allocation systems in schools, for teachers and students, need to be reviewed to ensure this consistency and alignment. It is tempting for us in schools to point to the overall systemic rewards, assessment and resource allocation systems in the Education System and say that these must first be changed before anything can be done by schools. However, the circle of influence for school leaders to implement systems which support their goals is significant. For example, within a school, there needs to be a clear, two-way feedback, monitoring and follow-up system between the Administration, HoDs and teachers on teacher performance and the criteria for excellent, good and poor performance. The rewards system is an important area for clear communication and teachers must be given ample opportunity to articulate, understand and clarify what constitutes desired performance in the context of the school's vision for itself and its students. A good performance monitoring, feedback and rewards system provides the necessary alignment to translate desired outcomes into day-to-day behaviour and actions.

Conclusion

29. The framework I have shared for building Learning Organizations can be summarised in the diagram below:



The four building blocks are like the four legs in a table - all four are needed for the table to be stable and strong. Similarly, each of the four areas - People, Process, Skills and Systems/Structure - needs to be addressed to provide a stable foundation for building a Thinking School and Learning Organization.

30. We are moving into exciting times in schools where school leaders and school teams will have the opportunity to create their own unique learning communities which cater to the needs of their students. The journey to achieve this goal is not an easy one. It takes perseverance, conviction and resolve. But these have always been the required attributes for schools leaders and school teams. The only difference, and perhaps this will be the key motivating factor for schools, is that the Thinking School, Learning Nation vision puts the steering wheel to creating the future of schools into the hands of school leaders and the school community. This

quote may be relevant to us in our journey to build Thinking Schools and Learning Organizations - "The only way to determine the future is to create it." ■

[1] Speech by Prime Minister Goh Chok Tong at the Opening of the 7th International Conference on Thinking, 2 June 1997

[2] "The Fifth Discipline: The Art and Practice of the Learning Organization" Peter Senge, Doubleday Currency, 1990

[3] "The Trillion- Dollar Vision of Dee Hock" by M. Mitchell Waldrop, Fast Company, Oct-Nov 1996

[4] This causal loop diagram was developed during a series of Workshops conducted in Singapore by Mr Daniel Kim and Ms Diane Cory, Organization Consultants, in 1995

[5] "The Leader's New Work: Building Learning Organizations" Peter M. Senge, Sloan Management Review, Fall 1990 Volume 32 Number 1

[6] " The Fifth Discipline: The Art and Practice of Learning Organizations" Ibid

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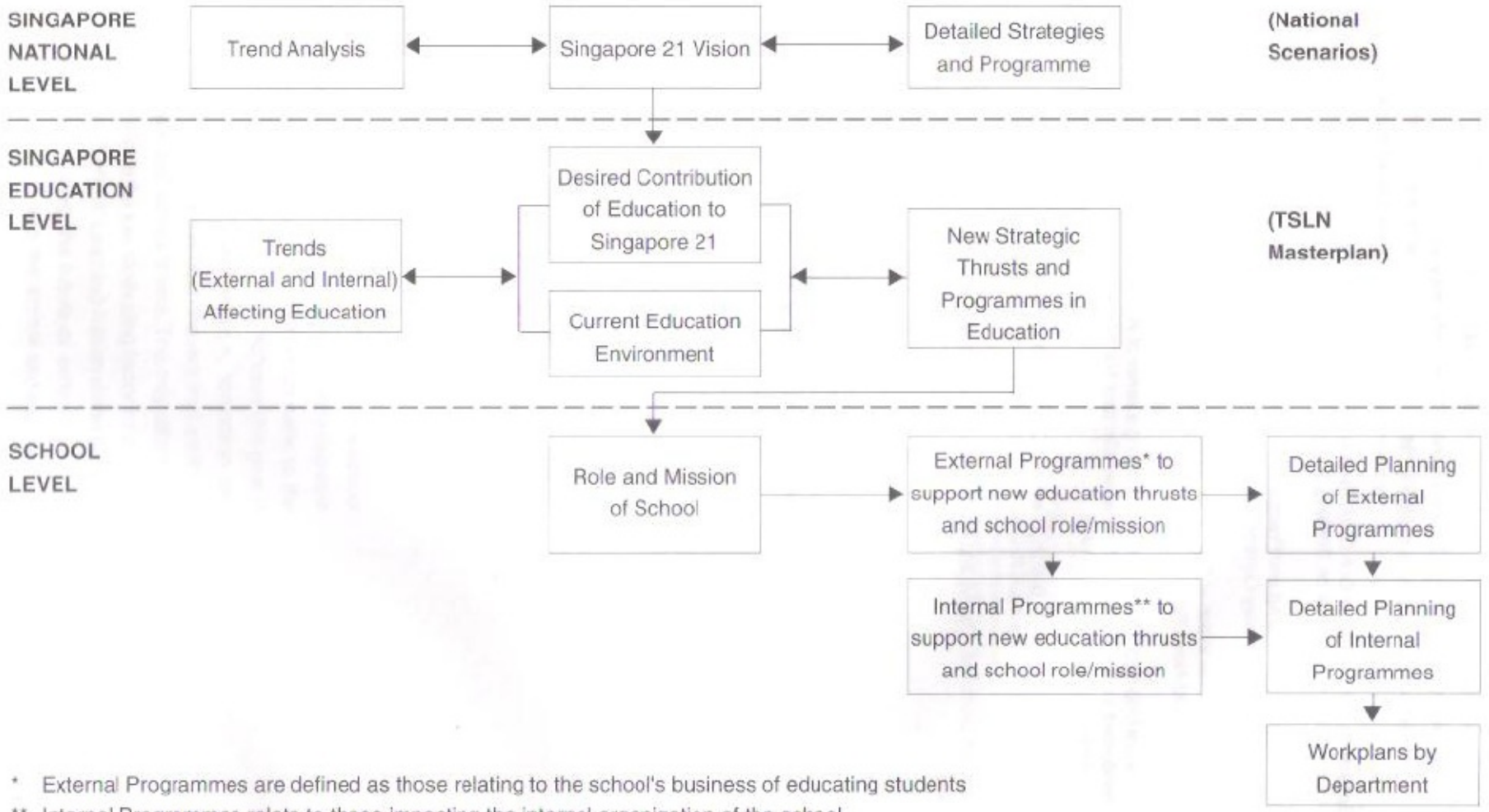
Mrs Ding Seok Lin *is a consultant in Organization Development.*

ANNEX 1

FrameWork For Building Shared Vision in Schools



* External Programmes are defined as those relating to the school's business of educating students

** Internal Programmes relate to those impacting the internal organization of the school

Annex 2

Teacher Skills, Capabilities and Attributes

- What skills, competencies must we develop?

Relationships

- What sort of school community do we want to build among teachers, students and parents?

Leadership Skills and Capabilities

- What roles, attributes and skills must school leaders have?

Curriculum

- What school programmes (formal and informal) will support desired outcome?

Classroom Organization

- How should our classrooms be organised to create conducive environment for teaching and learning?

School Vision

Desired Student Outcomes

Teaching Methodologies

- What are most effective to help students learn?

School Organization Structure

- How should we organized to support teacher and student needs?

School Infrastructure

- What facilities are needed to support desired outcomes?

Rewards System — for Teachers

- What are the performance criteria and feedback/ monitoring system?

Rewards System — for Students

- How should students be assessed?

Shared Values

- What are our core values and principles?

Organization of School Day

- What is the most effective time-table to support desired outcomes?

Systemic Change: Rethinking the Purpose of School

Tony Wagner

That there are so few examples of sustained, systemic change in our nation's schools should not come as a great surprise. We have had little real incentive to rethink the purpose of education since the Industrial Revolution, when schools had to be redesigned to prepare a largely immigrant labour force for new forms of work and citizenship.

Now, in another era of rapid economic and social transformation, the business world finds that it must adapt to new technologies, changing markets, and global competition. This new revolution in the workplace, in turn, suggests fundamental reforms for education. In fact, many school critics are proclaiming that business has all the answers for schools. The same was said at the turn of the century when new industrial practices — notably Frederick Taylor's principles of "scientific management" — pointed the way for the development of now obsolete "factory" schools.

Education for new forms of work is a necessary but insufficient reason for undertaking systemic change. Educators must also consider the competencies required for active citizenship as well as changes in both students' capacities and incentives for learning. Profound and ongoing changes in the workplace, in the requirements for global citizenship, in the nature of knowledge, and above all, in the needs and concerns of our students — all of these must be taken into account. Such "systemic" reflection — rather than reflexive reaction to outsiders' demands — should be the starting point for developing an *educators'* methodology for improving schools.

Systemic reflection, not reflexive reaction, is fundamental to long-term improvement. Schools and districts must first ask the right questions.

But before considering how to encourage thoughtful community discussions about purposes that will lead to systemic changes, let's look at some of the limitations of business models for restructuring schools.

Corporate Models and Education

Recently, superintendents and community leaders have turned to the ideas of Deming, Senge, and others in their search for a

The real methodology for system change begins and ends with ongoing, authentic conversations about the important questions.

methodology for systemic change. Looking for answers outside one's organization was also the first step that some corporations took more than a decade ago. Then — as now in schools — a variety of new theories were quickly imported: Quality Circles from Japan, the team alternative to the assembly line from Volvo in Sweden. Some ideas and models truly pointed to new "best practices," but others proved ineffective or had to be modified substantially to work in American companies.

While we can learn much from business models for change, we must not forget that the most successful "locally grown" efforts have been substantially refined through years of R&D. For example, it has taken Ford 12 years to develop and implement design and manufacturing changes that only recently have resulted in such significant payoffs as the Taurus beating out Honda's Accord for the number-one slot in American car sales.

Efforts to apply corporate models to educational change risk failure, in my experience, when the differences between businesses and schools are not clearly understood. The task of creating consensus on the need for and the goals of change — as well as new incentives for risk taking — are much more complicated in schools. Because corporations can see the problems and relativley quickly measure the effects of change efforts through a variety of quantitative measures — improved quality, profit, and market share — there is rarely disagreement about goals. Likewise, better numbers become obvious incentives.

In communities, however, there is little agreement about the goals of school reform or how improvements might best be measured. My interviews with parents, business leaders, educators, and students in a variety of communities reveal strikingly different views. For a lot of parents, the problem is getting test scores up and their kids into good colleges and solid careers. For some business leaders, it's making sure kids have basic skills; others want to produce a world-class work force. For many educators, the problem is simply getting kids to have more respect for learning and authority and to do some homework.

Rarely are students asked what they think the problems are in their schools. While some of the TQM and other change literature may refer to students as "customers," most educators still act as though vocal parents, standardized test makers, and college admissions committees are the customers that matter the most. Students are much more frequently thought of as the recalcitrant "raw material" from which quality products must be fashioned.

Unlike steel, however, students must be motivated to improve. Ask many middle and high school-age students what's wrong with their schools — as a group from the Institute for Education in Transformation at recently did — and they will tell you. Schools "hurt their spirit," classes are boring and irrelevant to their lives, and people seem cold and uncaring.[1]

How can we motivate teachers and students to change — and parents or community members to support long-term change — if we can't agree on what the problems are? Even the most thoughtful reform efforts — such as those represented by a few schools in the Coalition of Essential Schools — frequently run into trouble in their communities after a year or two because they began with surface answers — like "student-as-worker" and "teacher-as-coach" — rather than thoughtful discussions about why change is necessary.

Business models as applied to schools lack a methodology for creating consensus about the goals for meaningful reform. While their focus is "systemic," the outcomes are expert- or theory-driven solutions to problems that are not broadly understood. And all too often, these new ideas and practices are imposed from above, with little — if any — discussion among the people most affected: teachers, parents, students, and community members. Without broad agreement about the kinds of changes needed and why, these "systemic" efforts are no more likely to succeed than so many other educational innovations we've seen come and go.

How can we motivate teachers and students to change — and parents or community members to support long-term change — if we can't agree on what the problems are?

The Right Questions

The real challenge in developing a methodology for school reform is not as abstract or mystical as the corporate change literature makes it seem. The problem is — first and foremost — an educational one: how to create conditions that will promote informed, thoughtful discussion about purposes among teachers, students, parents, and community members. For example, what's right — and what's wrong — with our schools? What should the goals of school improvement efforts be?

While the search for answers and the struggle to implement them is indeed difficult and time-consuming, the real methodology for system change begins and ends with ongoing, authentic conversations about the important questions. My work as a consultant for school improvement over the past four years points to five essential questions:

Even with help, change comes slowly. The scarcest resource in the change process — even more than money — is time.

1. What are our schools' strengths and weaknesses?
2. What is our vision and what are our core values for a better school?
3. What are our priorities and strategies for change?
4. What structures do we need to reach our goals?
5. What new skills and resources will we need?

What Are Our Strengths and Weaknesses?

Individual schools — or even entire districts — need to take an honest look at what is and isn't working in their schools. Too often that assessment begins and ends with a look at numbers — test scores and dropout rates, and perhaps a parent survey. Rarely, if ever, are teachers and students polled.

Even if students and teachers are consulted, the "numbers approach" to a school needs assessment tells us nothing about how individuals think about problems or their ideas for solving them. Numbers cannot capture people's thinking about *why* there's a high dropout rate, for example, or what ideas they might have for improvements.

Number are also misleading. Too many wealthy suburban schools today aren't considering any kind of systemic changes because their test scores and college admission rates are OK. But these indicators tell us nothing about the quality of students' work or their lives. As long as kids continue to get into good colleges, school officials in many "good" districts don't consider high student anxiety and boredom in school and increasing substance abuse "after hours" to be evidence of a need for change.

Just as a growing number of businesses and political parties have done, so must schools begin to use qualitative research to understand what and how people think. Focus groups have been used successfully for years by organizations like The Public Agenda Foundation (founded by polling analyst Daniel Yankelovich and former Secretary of State Cyrus Vance) to understand people's thinking about complex social problems and policy questions. The results of focus groups are a far better indicator of individuals' deepest concerns and priorities for change. Even more important, focus groups led by skilled moderators can introduce new ways of viewing a problem and determine whether or not different groups can then see change in a new light. This latter application is critical for the school change process.

As communities begin to discuss how schools need to change, they must first consider the ways in which our society has changed over the past quarter century. Focus groups can explore how various people see the problems in schools and also present data that will clarify the need for change. It is far easier to develop consensus for educational change among different groups when they are presented with a common framework for viewing the issues.

What are some elements of such a framework? First, we must understand how rapid technological, economic, and social changes have radically altered the skills needed for productive work, active citizenship, application of knowledge, and development of good habits for personal growth and health. Then, we must consider how *students* have changed. Raised in a consumer and work-obsessed society with less connection to caring adults, many young people seem emotionally needy, hungry for instant gratification, and addicted to passive forms of entertainment. Compared to previous generations, they are less hopeful about the future and less motivated by traditional incentives for learning — respect for authority and belief that hard work will get you where you want to go. It is only by first coming to agreement on ways in which the world and students' needs have changed that we can conceive *a common framework for rethinking the purposes of education.*[2]

Serious efforts for systemic change in schools should begin with a series of focus group sessions with present and prospective parents, business and community leaders, educators, and present and former students. Topics should center around our schools' strengths, weaknesses, and priorities for change in light of society's evolving educational needs and priorities. The results should then be presented and discussed in "Town Meeting for Learning," where mixed groups try to understand and work through areas of disagreement. The goal is to create a public mandate for change that is sustainable.

I recently conducted a series of two-hour focused discussions in a community where there were some surprising findings — as well as significant rewards — for the courageous team of high school teachers and administrators who sponsored them. One finding was that community members and parents did *not* blame teachers for the problems in schools; rather, they saw teachers as caring people and felt that our society as a whole should assume responsibility for improving education.

Second, after reflecting on the challenges of preparing students for the 21st century, community members were more prepared

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Creating a vision of a better school must include definitions of real outcomes and discussion of how they can best be assessed.

to support profound curriculum changes than teachers had assumed — including a greater focus on competencies, rather than coverage; more interdisciplinary and team teaching; and the development of alternative forms of assessment.

Focus group work with students revealed that they, too, want to take more responsibility for their learning. They also want a school climate that actively nurtures greater respect for students and adults alike, as well as closer informal "advisor" relationships between teachers and students.

Finally, the focus group process contributed to an increased sense of trust and respect for educators in the community. *Everyone* appreciated the invitation to become more involved — and the opportunity to have a voice.

All these findings formed a foundation for answering the second essential question of systemic change.

What Is Our Vision For A Better School?

An honest discussion of real problems in schools is the "stick" of educational change. But without a "carrot," teachers will lack the morale and the incentives for risk taking. Communities need to agree on an inspiring vision to drive the change process.

Through holding Town Meetings for Learning and then creating working task forces around specific skill and subject areas, communities can begin the hard work of coming to agreement on goals for change. Developing a vision means finding new answers to age-old questions: What does it mean to be an educated person today? What should students know and be able to do in order to graduate from high school? How do we best prepare our students for the future?

Lofty-sounding mission statements routinely adorn schools' conference rooms and superintendents' offices. But if a mission statement is to be a true road map for change, it must be both broadly understood and translated into explicit criteria for assessing results. When small committees of educators and parents develop statements about teaching"critical thinking" or "citizenship skills," for example, nothing really changes. It is quite a different process for an entire community to define skills in terms of specific outcomes — such as the ability of students to analyze opposing editorials on an important issue and then write one of their own, for example. Creating a vision of a better school must include definitions of real outcomes and discussion of how they can best be assessed.

Core values are an essential aspect of a vision for a better school. Improving the quality of life and relationships in individual schools may be as important as redefining the goals in the change process. Students won't learn and teachers won't collaborate if they don't feel respected. In other words, change involves the heart as well as the head. While a vision statement clarifies the desired outcomes of change, core values define how we treat one another — and what kind of people we aspire to be — in the process. Together, they become the collective mission of the school community and the basis for designing and evaluating the change process.

In one school where a successful systemic change effort had been in place for several years, I facilitated a series of focus groups with faculty, students, and then parents. We began with questions like: What behaviors are of greatest concern to you here at school? What behaviors would you like to see more of? Within three months, the school community agreed on the following values as their guiding principles: honesty, respect for self and others, responsibility, and citizenship. With a common framework for talking about school climate and values, students, teachers, and administrators alike began to view their own and one another's behaviors according to very different standards. For the first time, students voiced a concern long felt and silently suffered by individual teachers — that students showed little respect for one another or for adults. They also asked teachers to gossip less about students and to plan more community-building activities. A greater sense of respect and community soon evolved, which, in turn, prompted students and teachers to take greater intellectual risks.

What Are Our Priorities?

The next step in the process of systemic change is to develop clear priorities and a timeline for change. School board members and community leaders must make clear their long-term commitment to a carefully thought-out strategy. Experience in corporations suggests that systemic change takes five or more years.

Like many CEOs, superintendents are under tremendous pressure to produce short-term results. Lacking a long-term contract and subject to the shifting sands of local politics, many well-meaning superintendents committed to systemic change feel they must undertake everything all at once in every school — an outcome-based diploma, interdisciplinary teams, a theme curriculum, heterogeneous grouping, advisory groups. As a result, even the best, most supportive teachers feel frustrated in their efforts, while the skeptics become even more resistant. All-at-

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once change efforts too often leave parents and students confused and demoralized, as well. Deep-seated resistance to change can, thus, quickly coalesce. Too little time and consideration are given to the new skills everyone — teachers, students and parents — needs to become effective participants in the process.

Different communities will evolve different priorities for change, depending on their most urgent needs. For many, moving toward an outcome-based curriculum, where students exhibit mastery through portfolios and exhibitions, centers everyone's attention on a concrete change. The results are often dramatic in terms of improved student motivation and performance. With proper training and support for teachers, teacher-student advisor groups and shared governance structures can quickly contribute to enhanced student-teacher relationships and a greater sense of community. On the other hand, the development of inter-disciplinary curriculum units — a much more time- and labor-intensive process — will likely require substantial summer work and fundamental changes in a school's schedule — and so might better be deferred.

Whatever the initial priorities for systemic change, there should be no more than three to five objectives, and they should be broadly understood and supported through focused staff development. Further, priorities must be periodically assessed and modified, as necessary, by a representative school improvement committee. Every year, entire school communities — as well as individuals and teams within each school — should evaluate progress toward priorities set the previous year and agree upon the focus of the next year's efforts.

An essential part of any strategy for systemic change by corporations is research and development of new "best practices" both within and beyond the organization. For example, rather than try to change the entire company all at once, Compaq Computer created a small division to develop better manufacturing techniques — a "skunkworks" shop. Once this autonomous unit had perfected the new methods, staff members then taught them to others throughout the company. This same process, is the essence of the strategy Debbie Meier is using to replicate her successful Central Park East model in six other New York high schools.[3]

To develop and refine best practices for systemic change, we need a network of "skunkworks" schools of choice for educational R&D in school districts throughout the country. Let each district agree on a few clear priorities for these schools (or programs

within schools), staff them with teachers interested in trying new ideas, open them to representative cross sections of families who choose to be in the program, agree on ways in which their work can be periodically assessed — and get out of the way! One of the most important ways in which state governments and the U.S. Department of Education might support systemic school change would be to provide the "venture capital" and technical assistance needed for the creation of such lab schools.

What Structures Do We Need?

Superintendents and school boards often implement systemic change by imposing administrative, organizational, or structural reforms. Creating schools of choice, combining schools, eliminating department heads, restructuring the roles of central office staff, or implementing site-based management are some of the more common examples. Such efforts are, at best, premature. More often, teachers view them as capricious or illogical when the changes are not explicitly linked to new goals and strategies.

And they don't work. In her review of research on school-based management efforts, Jane David found few examples of site-based managed schools where school councils dealt with any issues "more difficult than creating a new discipline policy or decorating the entranceway."[4] And in a recent RAND Corporation study, *High Schools With Character (1990)*,[5] researchers concluded that in efforts to improve inner-city schools

> choice and the deregulation that accompanies site-based managed schools create the external conditions for effective schools. But the internal conditions — developing a coherent mission statement and the individual character that appeals to students and teachers — matter equally.

The study went on to document the need for "focus schools."

These studies confirm my own experience: only after goals, priorities, and sequential steps for change have been defined, can the conversation about new structures make sense. The need to decentralize management, elect committees for shared decision making, develop new methods of assessment, and create new ways for parents to get involved — all become more apparent and logical when they are explicitly designed to serve the change process. Agree on goals and values and define the tasks *first*. Then ask people how they want to work together, and what they need to get the job done.

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Corporations that routinely use long-term consultants to facilitate change have found that the expense is more than offset by improvements in both the speed and effectiveness of their change process.

Which Skills? What Resources?

Community dialogue and agreement on the problem, a clear vision, core values, a few carefully chosen priorities rooted in a sequence of steps for change, and new or revamped decision-making structures — all will help define more clearly the need for the new skills and resources required to sustain the change process at every level.

With a clearer sense of system and school priorities, administrators and teams of teachers can more readily define what kinds of training and technical assistance they need. Parents may form their own support groups to better assist their children in school. And business leaders will find that they have new roles to play — helping the community to support change and serving on school improvement committees where people want to learn the skills of teamwork, agenda-setting, delegating, and so on. With greater involvement and clarity about the goals and methods of change, it also becomes easier to make the case to communities and businesses that new resources are needed to sustain systemic change.

Schools are beginning to recognize an additional need: the support of what Ted Sizer calls a "critical friend." A consultant who has both an understanding of the research and broad experience in schools attempting change can:

- lead the focus group sessions;
- help educate the community about economic and social changes;
- facilitate the development of goals, priorities, and strategies;
- teach new skills; and
- critique the ongoing work of committees, as well as individual teachers and administrators.

Corporations that routinely use long-term consultants to facilitate change have found that the expense is more than offset by improvements in both the speed and effectiveness of their change process.

Time: The Essential Resource

Even with help, change comes slowly. In my experience, the scarcest resource in the change process — even more than money — is time. Time for teachers to discuss students' needs, observe one another's classes, assess their work, design new curriculums, visit other schools, and attend workshops. Time for leaders at all levels to reflect and plan collaboratively. Time —

perhaps five years — to rethink the purpose of education, reinvent teaching and learning, and create new school cultures.

Can educators make the case in their communities for taking the time needed to do it right? Perhaps — but only by creating inclusive, thoughtful, compelling conversations about purposes and other critical questions. And then by acting with urgency, discipline, and courage. ■

[1] See Claremont Graduate School, (1992), "Voices from the Inside: A Report on Schooling from Inside the Classroom," (Claremont, Calif.: Claremont Graduate School).

[2] I outline a proposed framework in greater detail in "Improving High Schools: The Case for New Goals and Strategies," (May 1993), *Phi Delta kappan*.

[3] See *The New York Times*, July 14, 1993, A1.

[4] See J. L. David, (May 1989), "Synthesis of Research on School-Based Management," *Educational Leadership* 46: 45-53.

[5] P. Hill, G. Foster, and T. Gendler, (1990), *High Schools With Character*, (Santa Monica, Calif.: RAND Corporation).

Author's note: Wagner's book, How Schools Change: Lessons from Three Communities, will be published next spring by Beacon Press.

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***Tony Wagner** is an Assistant Professor of Education at the University of New Hampshire and a consultant for school improvement. He can be reached at 223 Lakeview Ave., Cambridge, MA 02138.*

TQM, Skills And Training In Primary Schools

Tan Cheng Yong

INTRODUCTION

The notion of learning has been realigned in the landmark speech by Prime Minister (PM) Goh Chok Tong at the opening of the 7th International Conference on Thinking on 2 June 1997 where he emphasised that learning should ensue after formal schooling ceased.

This article seeks to link organizational learning to total quality management (TQM). Next, it describes four salient categories of skills necessary to effect a transformation of our teaching profession to a high-quality, high-skill equilibrium with TQM. These skills clusters encompass job skills, quality management, cross-functional learning and group-process management.

A learning organization is one that is proficient at creating, transferring knowledge and at altering the behaviour of its members to reflect novel information. In addition, it must continuously learn and unlearn.

LEARNING ORGANIZATIONS

A learning organization is one that is proficient at creating, transferring knowledge and at altering the behaviour of its members to reflect novel information. In addition, it must continuously learn and unlearn. This means that it must acquire new capabilities and integrate them with present ones as well as eradicate those that impede improvements. In this respect, the learning culture engendered transcends fine-tuning (implying conformity) or reactive responses in times of crisis.

LEARNING PROVISION IN OUR SCHOOLS

Members of a learning organization enjoy easy access to training opportunities and possess learning plans. Furthermore, learning is construed as being much wider than training. In our primary schools, teachers are encouraged to select appropriate courses to attend and jointly prepare the school's training masterplan with principals and heads-of-department (HODs) at the beginning of the year. Furthermore, sharing of expertise with colleagues and

many other forms of skills acquisition are considered as learning too. In this respect, teachers manifest self-managed learning, not only training, via the collectively-determined training goals and plans.

The training guidelines stipulate that each teacher is to establish as a target 100 hours (or 12.5 days) in learning per year. 60% of the training time must pertain expressly to education and teaching while the remaining 40% can be allotted for personal development which seeks to develop the overall personality of a person and enhances his ability to perform varied tasks in future.

The MOE has adopted a liberal definition of training for our teachers too[1]. For the purpose of discussion, these learning opportunities are divided into five categories here. The first group pertains to school-based workshops conducted by external consultants or school staff. The second cluster relates to professional sharing by school staff themselves and encompasses observation of classroom lessons conducted by exemplary teachers. In-service courses comprise the next group of training events. Yet another avenue of training is derived from structured on-the-job training (OJT) which includes the mentoring of new teachers. The last category encompasses all learning opportunities that will either enhance the professional capability or personal growth of our educators.

TOTAL QUALITY MANAGEMENT (TQM)

TQM comprises four salient and enduring change principles. Firstly, it underscores the importance of learning and continuous innovation in organizations. Secondly, it zeroes in on work processes and emphasises training employees to examine and improve. Next, it identifies uncontrolled variance as the fundamental cause of quality problems and acknowledges that it can be managed by those who perform an organization's front-line tasks. It also encapsulates the usage of systematically-gathered information at every point in a problem-solving cycle.

For TQM to flourish in an organisation, many circumstances have to be present. Many organizations with TQM programs have considered employee involvement as an inseparable component of TQM on which the success of TQM is contingent upon. In particular, work improvement teams (WITs) represent a variant of the quality control circles (QCCs) which originated in the 1970s in Japan where members are tasked to solve specific quality problems.

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"Job skills" can be described as encompassing all technical knowledge that organizational members require for success in their tasks.

EMPLOYEE INVOLVEMENT IN OUR SCHOOLS

We have described WITs as being iconic of QCCs and supplemented by the suggestion schemes in our schools. They represent improvement efforts and members of WITs received specialised training, identify pertinent problems, propose solutions and garner data to examine the viability of their recommendations. Furthermore, WITs' projects from various schools are shared on the recently revived Ministry of Education (MOE) WITs' Day and showcased in the annual MOE publications "Sharing of WITs' Projects". As for the suggestion schemes, winning suggestions receive tokens of recognition such as MRT cards. Such celebrations legitimise quality enhancements. Participation in WITs and suggestion schemes constitutes part of the staff performance appraisal too. In line with the PS21 imperative, MOE has also organised seminars on "Quality Service Culture in Schools" to nurture a customer-focused perspective in schools. In addition, many schools engage consultants to deliver "Teamwork" workshops to their teachers.

FOUR DIFFERENT SKILLS CLUSTERS

Training prescribed by MOE largely pertains to job skills like the use of computers. Nonetheless, four other categories of skills development exist and it is equally vital to equip teachers with these skills to institutionalise continuous improvement for successful TQM. These include job skills, quality management, cross-functional learning and group-process management.

(A) JOB SKILLS TRAINING

The conventional domain of training lies largely in job skills development. "Job skills" can be described as encompassing all technical knowledge that organisational members require for success in their tasks. In our schools, these include pedagogical principles (like how to teach a subject and manage a class) and operating and trouble-shooting IT devices like computers. Furthermore, members of a learning organisation must be willing to embrace new technologies too. This can come from the lateral exchanges of experience and feedback from other teachers or even mentoring arrangements with proficient colleagues. Teachers must also understand how the school functions, including how students' fee payment arrears are processed and how to make equipment purchase requests. In this manner, if Music teachers feel that Encarta CD-ROMs are useful in the teaching of music, they would not be impeded in going about requesting the purchase of the software.

In fact, learning is often an important by-product of the interactions that occur on the job. This lends justification to structured OJT as an appropriate means of imparting the requisite skills that employees need as endorsed by the OJT 2000 Plan but nonetheless neglected in the training schedule of most teachers. Structured OJT refers to a mode of instruction whereby employees are systematically taught to perform their tasks by actually doing them at the workplace but excludes employees' learning that is acquired through self-exploration. While all teachers undergo training at the National Institute of Education (NIE), it cannot be denied that the training they have received comprise largely pedagogical principles untempered by the classroom situation. Therefore, it is desirable for our teachers to undergo structured OJT. This involves identifying specific training objectives, appointing proficient teachers (like HODs) to be coaches, designing a training schedule and evaluating the progress of the program periodically.

(B) QUALITY MANAGEMENT

Quality management is pertinent in the provision of quality service in our schools. This implies that teachers must understand what TQM is, what their roles are, how to achieve TQM and the school's direction as communicated in the mission statement. They must also be aware that they have two groups of clients, chiefly external and internal customers. External customers are like the parents who need to be advised on their newly-enrolled Primary 1 children, while an illustration of an internal customer is the teacher who arrives at the classroom, expecting that it will be thoroughly cleaned up by the Art teacher using the same room during the previous period.

. . . teachers must understand what TQM is, what their roles are, how to achieve TQM and the school's direction as communicated in the mission statement.

Schools can also adopt "benchmarking" which involves gathering information about best practices from other model schools like independent, autonomous, Special Assistance Plan (SAP) or neighbourhood value-added (VA) schools. The emphasis that excellent ideas should be shared among different schools and multiplied can be considered as a variant of benchmarking too.

In addition, every teacher should be equipped with problem-solving skills and be a built-in team quality control expert. In this regard, schools with WITs familiar with identifying problems, employing decision-making heuristics involving collecting data, evaluating alternatives using scientific/

The learning enterprise frequently organises its employees in cross-functional teams to benefit from the diverse capabilities of its members.

statistical tools (e.g. control charts and Pareto analysis) and making improvements are basking in an environment of learning. This is further augmented by individual suggestion schemes addressing many different areas of concern.

(C) LEARNING FROM CROSS-FUNCTIONAL TEAMS

The learning enterprise frequently organises its employees in cross-functional teams to benefit from the diverse capabilities of its members. Notwithstanding the penetration of WITs in our schools, most of them are composed of members from the same department or committee and do not transcend functional boundaries. The annual review and sharing of workplans of different departments has undoubtedly heightened teachers' understanding of the agendas of the departments of which he is not a part of. Our schools can advance a step forward by organising teams comprising teachers from different departments. Alternatively, it can periodically rotate teachers among different core (e.g. English), non-core (e.g. Physical Education) departments; extra-curricular activities (e.g. Rope-Skipping) and supporting committees (e.g. Discipline).

Such pro-learning work organisation offers many strengths. Firstly, it facilitates an appreciation of the different perspectives of other teachers. It also permits teachers to comprehend the nature of interdependency and establish collective quality goals. More importantly, the linkage among diverse perspectives may lead to novel solutions. This arrangement also provides multi-skilling which enriches the job.

(D) GROUP-PROCESS MANAGEMENT

In a participative organization where employee involvement and teamwork is prevalent, employees need to be armed with effective interpersonal skills. These encompass the ability to communicate unambiguously; listen to, express viewpoints uninhibitedly and disagree strategically. This insight is particularly home to primary schools where each teacher is concurrently a member of a few different committees and thus, experiencing multiple opportunities to interact with colleagues from common or even different teams. In particular, conflict resolution can be helpful in meetings where different group members interpret the same piece of information differently and hold different preferences. Furthermore, traits of team-leading and building are rarely congenial to team members but are nonetheless susceptible to training.

CONCLUSION

This article has attempted to examine organizational learning from the angle of TQM. It has scrutinised the characteristics of the training which our primary school teachers are receiving and suggested that training of a radically different nature should be offered to augment the skill repertoire of teachers. ■

[1] As discussed, this broad interpretation is necessary to develop schools into genuine learning organizations.

Tan Cheng Yong *is a teacher and library Co-ordinator in Loyang Primary School*

Disciplines of the Learning Organization: how could they work for you and your school?

Dr. Chong Keng Choy

A dialogue among principals in one fictitious school cluster

[This fictitious dialogue is based on my experience gained from facilitating ten groups of principals in "dialogue" during two Learning Organization Seminars conducted at the National Institute of Education recently in September 1998.]

F.H.: My school is my family ... a second home for my children.

S.S.: And mine is a space ship.

B.C.: I see myself growing bamboo clumps.

T.S.: I run a tight ship.

C.C.: I work and play in my country club everyday.

G.S.: I think my school is a garden.

S.F.: I am the shepherd and I tend my flock.

G.S.: Why do you think of your school as bamboo clumps?

B.C.: Well ... I think of the wonderful qualities of bamboo trees ... strength in the face of strong winds, resilience, support for one another ... I could grow a garden school of my bamboo clumps.

G.S.: You are welcome to grow them in my garden. I see a beautifully sculptured fountain in the midst of the garden and life-giving water flowing through it, from it, and over it. My children drink from this fountain which also sustains the whole garden as an environment conducive for my children to grow and learn in. They could also learn from the bamboo trees, orchid plants, birds flying freely ....

B.C.: More than just learning from bamboo trees ... I see each classroom as a bamboo clump rich with bamboo shoots. My children are the shoots and my teachers are the bamboo trees, giving them security while they learn and make mistakes as consequences of learning, nurturing them.

S.S.: My space ship is completely high tech ... flowing energy like flowing water nourishes the space ship. Singapore is a high tech creation and will become more beautifully artificial to compete in a more and more creative world of the future. Globalisation is the trend for us to ride.

My children are the shoots and my teachers are the bamboo trees, giving them security while they learn and make mistakes as consequences of learning, nurturing them.

G.S.: But Singapore is a garden city and a very beautiful one indeed. Why does the garden city need your space ship? My garden school is one among all other garden schools in the garden city.

S.S.: Our world is Spaceship Earth. Singapore is a spacecraft among other space crafts on Spaceship Earth, perhaps a very beautiful high tech garden spacecraft. My Spaceship School could be just as beautiful and high tech a garden spacecraft hovering in global cyberspace where my children can learn and create in safety. MOE has put in and planned to put in large amount of money into information technology (IT) for education. IT is the fastest growing creative and learning technology in Singapore today. The reality is that my garden school spacecraft has the greatest chance of success if I ride the IT trend.

T.S.: Spaceship must be run as a tight ship. Discipline is necessary for safety and for learning to be experts. Cyberspace is a rich and dangerous world. Children need discipline and self-control to negotiate the future. We desire that our children should excel in whatever they have the potential to excel. The desired outcomes of education could be achieved only when children and teachers are kept *able* with dedication and will. They need discipline for the long years of study to become experts in the future.

C.C.: We are moving from an efficiency-driven school system into an ability-driven school system. Why do you think discipline is sufficient for the future? Diversity and choice will reign supreme. Children must learn to choose the future they desire. My country club gives my children and teachers opportunities to choose and achieve their greatest potential. Diversity is very important for meaningful choices to be made.

Why do you think discipline is sufficient for the future? Diversity and choice will reign supreme. Children must learn to choose the future they desire.

S.S.: Our ability-driven school system is built on the efficiency-driven one. Keeping our children and teachers *able* into the future must be done efficiently, given the fixed quantum of twenty-four hours for each individual and scarcity of other resources. Diversity, choice, and efficiency could go hand in hand, and must indeed do so even for a country club. Why do you think we are at odds here?

C.C.: I think not. As long as we are based on Spaceship Earth, scarcity is a fact of life and it will continue to be one. My country club will need then to have multi-level, multi-segment facilities, all connected by a huge network, perhaps like Singapore ONE, internet, ... perhaps a multi-storied space craft for my country club to cater to the

Discipline as in self-control is important for moving through the stages of children's development, but *disciplines* as what can be learned are also crucial for education.

diverse needs, interests, and varied potential of my children and teachers.

S.F.: Why are we moving away from the garden metaphor? I need fields to bring my flock to.

C.C.: Yea, I need fields and open spaces for my country club.

F.H.: My second home for my family of children is about people. Remember that children love and want to be loved. People need people who need them. All this talk about infrastructure omits the whole focus of education, which is bringing out the best of our potential as human beings. So indeed, why do we need a garden, high tech or not?

B.C.: Yes, education is about human qualities, and bamboo trees are object lessons of such enduring qualities. I still need space to grow and nurture my bamboo clumps for social growth and citizenship. My children could drink deeply from water fountains of life, images of knowledge creation and dissemination, which make the growth and sustenance of civilisation possible.

G.S.: The high tech garden of Singapore, perhaps in multi-level networked configurations, could sustain a diversity of high tech garden schools, where a thousand flowers bloom and varieties of trees, shrubs and plants flourish. Your children could find space in these high tech garden schools to grow and learn, and establish their second home too, while surfing the cyberspace from the security of home.

S.F.: My flock could drink from the life-giving water fountains of knowledge and play simulation games in the high tech garden for preparing them for the future world and work. Discipline as in self-control is important for moving through the stages of children's development, but *disciplines* as what can be learned are also crucial for education.

F.H.: I am flattered to be given a beautiful high tech garden backyard for my children to play in, but I want a home for my children. I want more than security for them. They need love and bonding that only human family could give. No lavish houses or garden would do. Why are we not talking about the details of bonding and interaction that characterise teaching and learning? I believe that teaching and learning in the 21st century will be very different from the way we know them today. The advent of IT is changing the way teachers and students will relate to one another. We need to focus on *disciplines* that could help us realise the full benefits of the Thinking School.

G.S.: This network of high tech garden cyberschools of various kinds can serve as a platform for working out the details of the Thinking School. I see it as a node within a far larger

global network of cyberspace which brings us into a whole new way of seeking knowledge, creating it, packaging it, interacting with students, parents,. . . . .the dialogue continues.

Now let us stop listening in, and think about ways that the *disciplines* of learning organization (Senge 1990) could help you and your school. You could do this by reviewing the above dialogue. The outline notes below could help you think about four of these ways.

1. ***Create the school you deserve.***

From the above dialogue, we could notice the generous use of metaphors. They encapsulate important assumptions we make about the world, how things work, conditions under which these things could work, values and possible futures, among many other things. The dialogue illustrates the surfacing of many important assumptions made by principals about their schools and the world. The discipline of the Mental Models focuses on the surfacing of these important assumptions, and "dialogue" (see Senge, 1990 p. 238) is a means for surfacing them. At the individual level, mental models help you to know the assumptions that drive your individual actions. We notice also that metaphors are being associated with one another. In other words, principals participating in the dialogue highlight the assumptions that they could share although they continue to keep their personal metaphors. We know from the management textbooks that school culture consists of meanings and assumptions shared by members of the school. From the above dialogue, the principals of the fictitious school cluster clarify the assumptions that they could share with one another. They could have a sense of what the cluster culture could look like. At the organizational level, mental models guide you to contribute creatively to the school culture, and in the above dialogue, a cluster culture. Whatever your contribution, you have a part in the creation of your school culture. **Your school is what you deserve.** The school culture is not static. It changes over time. We could be wondering how we could think about participating successfully in culture creation. The discipline of systems thinking is important for seeing the whole and the interconnectedness within the whole. Seeing your part in the whole and how what you do could have consequences for other members of your school organization is the prerequisite for creating the school you deserve. Your school is in a larger

Seeing your part in the whole and how what you do could have consequences for other members of your school organization is the prerequisite for creating the school you deserve.

Your school is in a larger system of many other schools, and so you have also to recognise the interconnectedness among schools in Singapore.

system of many other schools, and so you have also to recognise the interconnectedness among schools in Singapore. At the organizational level, systems thinking gives you the discretion to participate at your level in the process of organizational change, by aligning your activities with other school activities according to your understanding of the school system.

2. ***Think the unthinkable.***

We think by analogy. We use metaphors, similes, images of essence, and pictures to help us in our thinking and conveying our thoughts. By looking for themes that run through our descriptions of tasks and events, we are able to associate meaningfully diverse tasks and events. By associating our ideas with many other ideas in a meaningful way, including those that do not seem to make sense, we could see better the whole and the interconnectedness within the whole that makes up the system. Thinking in terms of systems helps us understand the underlying assumptions making up the ill-defined problem we face. At the individual level, systems thinking encourages you to make your problems tractable and your personal aspiration achievable, through participation in organizational change. When someone has a thought and shares it with you, this thought (which you found unthinkable in times past) is thinkable now. By associating your thought meaningfully with thoughts that other people shared with you, you are able to work together with them in solving the problem at hand. Our chosen response is then to solve ill-defined problems by associating our thought with those that other people shared with us, and not to sweep them under the carpet. Iron sharpens iron. Understanding how other successful people work, we enrich our mental models for working successfully too. At the individual level, shared vision motivates you to get "some where", and to do "great things". Shared vision is your mental model of possible futures and how to realise some that you desire.

3. ***Work with what is in flux now.***

For example, the dialogue highlights IT and globalisation as what are in flux. Consequences of IT and globalisation in flux are discussed in Chong (1998). Riding such trends to desired outcomes increases your chance of success. Helping others to surface their mental models of future possibilities helps us also to clarify areas in which we can collaborate with others.

There are many assumptions that other people do not share with us, but there are also many other people's assumptions we share. The dialogue at the beginning of this paper gives many assumptions, about high tech futures for instance, that the principals of the fictitious school cluster share with one another. They therefore are likely to collaborate in this area of "high tech garden school" for personal and school success in the future as they proceed with the dialogue. At the organizational level, shared vision encourages you to collaborate in achieving "greatness" together with others. The ability to work with shared vision has implications for leadership behaviour, which will be different from that of most principals today. As the Creative Leader of tomorrow, you will keep one eye on the horizon, and the other eye on what you will be doing. You will also think about value added for reaching what is on the horizon by what you will be doing. **The new image is of creative leaders with foresight.** In contrast, as the Operational Manager today, you keep both eyes on what you are doing. You also think about doing well what you are doing. You are limited to and by what you are doing. The new image of creative leadership is so much more powerful for propelling your school to level up and doing things not possible today. You straddle between the beckoning future and the reality of today. **You can look back from the future, reviewing the possible consequences associated with what you are choosing to do now.** Shared vision, in the mind of the creative leader, can create collaboration with others to learn together towards leveling up your school. Creative leaders will take internal school planning and assessment as opportunities for learning together with teachers, students, parents, and other interested parties for gaining greater capacity to level up your school. By contrast, current school planning and appraisal focus only narrowly on what or who went wrong and what or who to remedy the wrong. At the organizational level, team learning gives you the capacity to level up your school, through internal school planning and assessment.

The new image is of creative leaders with foresight. . . . You can look back from the future, reviewing the possible consequences associated with what you are choosing to do now.

4. ***Lead by serving others.***

As the creative leader, you do not tell or command others. You serve others by helping them surface their mental models and foster shared vision. Systems thinking is the discipline at your disposal. You learn skills of the learning organization, namely, "building shard vision", "surfacing and testing mental models", and "systems thinking". Your aim is the personal mastering of these skills, and the process is "dialogue", an

. . . team learning gives you the capacity to reach heights beyond your personal aspiration.

illustration of which is given at the beginning of this paper. At the individual level, personal mastery makes you an expert in working with others to achieve "greatness". Leading by serving others is then a way to help every member of your school to participate in the creation and sustenance of school culture, that gains and sustains competitive advantage for the school into the future. **Everyone is then a leader.** At the individual level, team learning gives you the capacity to reach heights beyond your personal aspiration, not possible outside "dialogue". Members of your school are encouraged to participate actively. You are not alone in the job. The organizational hierarchy that works so well, and should continue to work, for you in routine work is now of no effect in leveling up your school into the future. **Participative management is inclusive, not top-down or bottom-up.** We think of partnership among people with diverse needs and values. At the organizational level, personal mastery calibrates your individual SKA (skills, knowledge, attitude) for adding value to collaborative effort towards moving your school from the *now* to the *future* together with others. You do not think you are sacrificing your mental model or your personal vision when serving others. You always see your mental models and your personal vision in that larger new whole of associated mental models. This new whole did not exist in your mind previous to the dialogue, but it is now yours in your enriched mind. **You see advantages accruing to your smaller self in your bigger self** (as one group of principals discovered in a learning organization seminar conducted by my colleague and me recently). You see yourself achieving your personal aspiration in that shared vision, and you want all your teachers to see themselves achieving their personal aspirations in that shared vision, which all could see so clearly now through the dialogue. ■

Summary

The five disciplines of the learning organization (Senge, 1990) work at two levels, namely, the personal and the organizational level. Statements of how they work at these two levels are tabulated on the next page for easy reference.

Table 1: Disciplines of the Learning Organization (LO) working at two levels

LO Disciplines	Individual Level	Organizational Level
Mental Models	Help you to know the assumptions that drive your individual actions	Guide you to contribute creatively to the school culture
Shared Vision	Motivates you to get "some where", to do "great things"	Encourages you to collaborate in achieving "greatness" together with others
Personal Mastery	Makes you an expert in working with others to achieve "greatness"	Calibrates your individual SKA (Skills, Knowledge, Attitude) for adding value to collaborative effort towards moving your school from the now to the future together with others
Team Learning	Gives you the capacity to reach heights beyond your personal aspiration, not possible outside "dialogue"	Gives you the capacity to level up your school, through internal school planning and assessment
Systems Thinking	Encourages you to make your problems tractable and your personal aspiration achievable, through participation in organizational change	Gives you discretion to participate at your level in the process of organizational change, by aligning your activities with other school activities according to your understanding of the school system

Two images of school leadership are contrasted in the paper, and they are tabulated on the next page. Creative leadership is more consistent with the learning organization.

Table 2: Images of school leadership compared

New image of school leadership	Old image of school leadership
As the Creative Leader, you • Keep one eye on the horizon, and the other eye on what you are doing; • Think about value added by what you are doing for reaching what is on the horizon.	As the Operational Manager, you • Keep both eyes on what you are doing; • Think about doing well what you are doing.

For readers who want to take a look at two prototypes of the learning organization, they could read Schein (1996) on Singapore's Economic Development Board as a learning organization and Sullivan and Harper (1996) on America's Army as a learning organization.

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Dr. Chong Keng Choy *is a faculty member of the Division of Policy and Management Studies at Nanyang Technological University.*

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