

Lowering the Barriers to Systems Thinking: Lessons from India

by Steve Kipp

Teachers who have used Systems Thinking have consistently reported that it is a powerful way to teach specific content and general thinking skills (see back issues of this newsletter at <http://www.clexchange.org/> and the Waters Foundation Systems Thinking in Education website at <http://www.watersfoundation.org/>). But it has also been consistently reported that it can be difficult to help teachers recognize their own ability to use Systems Thinking. Many teachers' current mental models often block them from two key realizations: 1) Systems Thinking works; and 2) I am capable of teaching using Systems Thinking (Mons, 1997). Personal experience has shown that it is easier to demonstrate how well Systems Thinking (ST) works with students than it is to convince teachers that they themselves are capable of integrating ST into their palette of effective strategies. On a recent trip to train a school in India, I gained a few insights as to why teachers sometimes have a harder time seeing their own efficacy as ST practitioners than they do seeing the usefulness of the ST approach itself.

It came as a welcome challenge in June 2004 when Indian businessman Rajinder Raina invited me to India to train teachers at a school in a city called Pune, about 160 kilometers from Mumbai (Bombay). Rajinder had been using Systems Thinking (ST) tools to help him manage a factory using ideas from Peter Senge and the Society for Organizational Learning. He had located a school in Pune called the Rewachand Bhojwani Academy (RBA) that was open to exploring new ways to help kids think more clearly about their schoolwork and their own lives. The principal of RBA, Madhavi (“mahd-vee”) Kapur, had founded RBA using ideas she gathered from a very diverse group of educational thinkers, from John Dewey to Maria Montessori to the Indian poet and social philosopher Rabindranath Tagore (see <http://www.infed.org/thinkers/tagore.htm>). Rajinder had come to a Waters Foundation training (where we met) in order to learn educational ST strategies and perhaps find a person to help him train the teachers at RBA. When he described the school it sounded like an environment where people could quickly adapt ST strategies. At the time I had no idea just how rapidly they would learn.

After the June training, Rajinder returned to Pune and did several short introductory sessions with a small group of teachers and students. He helped me to design a training program consisting of three days of workshops for most of the staff and two days of follow-up work with students in classrooms. (The training plan and results will be described in more detail in a subsequent CLE article.) After the 5 day training workshop/classroom sequence we did in November 2004, Rajinder has continued to provide local support, and I have provided remote support via email. There is a group of teachers at RBA who have taken off with it, designing (or adapting) and implementing their own lessons using ST strategies. So far, it seems to have been a success. Two critical reasons we were able to pull this off are that some aspects of Indian culture seem to be more naturally systemic than Western culture, and that these positive Indian cultural traits are especially emphasized at this particular school. Naturally systemic Indian cultural traits observed include 1) an open-mindedness that facilitated rich and rapid comprehension of the concept of mental models; 2) a deep and natural awareness of the interconnectedness of all things; 3) a refreshing blend of what in America has unfortunately become divided and labeled as “conservative” and “liberal” values, e.g., *individual responsibility and traditional family values* mixed with a sense of *collective responsibility and a hunger for new and creative ideas*.

Mental Models

For teachers to effectively use Systems Thinking, they must be secure and open-minded enough to admit their own mental models may not be perfectly aligned with reality. This idea can feel threatening to adults, and can be especially difficult for teachers because many of us have gotten attached to the idea that we must have all the answers. In *Schools that Learn* (2000), Peter Senge writes

We live in a world of self-generating beliefs that remain largely untested. [Those beliefs] are inferred from what we observe, plus our past experience. In any new experience, most people are drawn to take in and remember only the information that reinforces their existing mental models...Mental models [can] thus limit people's ability to change. The practice of “working with mental models” helps us see the metaphorical pane of glass we look through and helps us re-form the glass by forming new mental models that serve us better. Two types of skills are central to this practice: reflection (slowing down our thinking process to become aware of how we form our mental models) and inquiry (holding conversations where we openly share views and develop knowledge about each other's assumptions).

Several authors have written that “forming new mental models that serve us better” is a primary reason to use Systems Thinking in the first place, and personal experience has shown that there is a reinforcing relationship between *flexibility of mental models* and ability to teach using Systems Thinking. According to Senge, reflection and inquiry are two key abilities for forming new mental models. Reflection and inquiry came very naturally to the staff of RBA; after some brief initial shyness, most of them very easily adapted to the disciplined yet open-ended conversational style that characterizes many ST lessons. Using the ST tools of behavior over time graphs, causal loop diagrams, stock flow diagrams, and STELLA models, we were easily able to have productive, fact-based conversations about uncomfortable subjects that Indian tour books typically tell foreigners to avoid such as government corruption, overpopulation, poverty, and the conflict in Kashmir. It turns out that reflection is an integral part of the meditative spiritual traditions in India, and that open-ended intellectual conversation is almost a national pastime among many Indians. So fruitfully exploring and exchanging mental models came quite naturally to them, and the ST tools gave them a productive framework to guide and focus their explorations of specific topics and issues.

Natural Awareness of Interconnectedness

Detailed, useful knowledge of how interconnectedness shapes change is an important outcome of Systems Thinking; a general awareness of interconnectedness is a powerful piece of prior knowledge developing new Systems Thinkers. All of the Indians we met demonstrated an effortless, high level of awareness of the interconnectedness of all things; it is a part of their spiritual and cultural teachings from birth. This first became apparent in the almost startling, immediate connection we made with them as fellow teachers. They deal with very similar challenges of student motivation, maintaining discipline, too much to teach, and lack of planning time. But there was something more than the bond of dealing with similar challenges. It is difficult to explain but they just seemed more “with” each other and with us, less separated by individualism. One business man at a dinner joked about how it seemed that when he was in America everyone was obsessed with “S and P...S and P... S and P”.... Space and privacy! Perhaps this difference is a natural outcome of the ruggedly individualistic history and wide-open-spaces mythology of the United States versus the physically crowded history of India. When I remarked on this clearly apparent greater interpersonal closeness, Rajinder replied that it was a direct outcome of the practice of Hinduism, and that a non-Hindu would have a hard time fully grasping it! Whatever the reasons for the difference, their natural instincts for connectedness seemed to accelerate the speed with which they picked up on Systems Thinking.

A Productive Blend of “Liberal” and “Conservative”

America today appears to be extremely divided along ideological lines. This perception may be more a product of deliberate manipulation by politicians and businesses (including the media) rather than an actual deep division among the people. But our current public discourse does seem extremely fragmented. Universally positive traits seem to have been co-opted by one “side” or the other: conservatives lay claim to matters of individual responsibility and family values, and liberals take credit for any sense of collective responsibility and striving for new and creative ideas.

Traditional Indian values do lean toward the so-called “conservative” side of the spectrum, with a high value placed on tradition, family ties, religion, respect for elders, and general politeness. But at least at this particular school, there was also a very “liberal” sense of intellectual energy, belief in change for the common good, and the pursuit of all types of creative expression. This exactly describes characteristics of good Systems Thinkers: disciplined and focused, yet very flexible and creative. So again, this particular group of teachers seemed very pre-disposed to rapidly becoming Systems Thinkers.

No Utopia

Despite all of the naturally systemic traits evident in teachers and students at this and some other schools, India as a whole faces large systemic difficulties. Our contacts talked frankly of these challenges. While India has the largest middle class in the world- 300 million people- they are also very well aware that the plight of the more than 700 million Indians who range from poor to destitute (and who have the highest birth rate) can no longer be ignored if the country as a whole is to prosper. The Indian middle class has access to good private schools. But despite the efforts of a few dedicated individuals, as a whole the public school system ranges from inadequate and corrupt to simply non-existent: many Indian children still simply have no school at all, and the national literacy rate remains at about 65%. And there is sometimes a desperate sense of competition in India, perhaps born of poverty; an example of this hyper-competitiveness is the recent case of an Indian student who completely faked an American academic honor. In this current world of rapid change, cut-throat competition has been shown to be counterproductive to profitable, systemic living. And government corruption remains a challenge. However the current Prime Minister, Dr. Manmohan Singh (a PhD economist) has shown some signs of actually cracking down on corruption.

Yet despite these challenges, everywhere there was an overall positive attitude about the future of India. A striking example of this is a new graduate business school that we visited in Pune, the Sadhana Centre for Management and Leadership Development. Conceived and set up from scratch in 40 days by Professor M.S. Pillai and his grateful and financially successful former students from another business school, the Sadhana Center is dedicated to shaping the future of business by “sculpting principled and inspiring performers and business leaders towards spreading prosperity, peace, harmony and happiness around” (see <http://www.scmlld.org>). To quote from the Sadhana brochure: “If [the poor] constitute more than 80% of India's population, who will buy your chips, Coke, cakes, and designer underwear?” This represents a dramatic departure from pure self-interested capitalism. The intelligence and enthusiasm of these 180 business students was evident even at 7:30 PM when Rajinder and I presented a 60 minute glimpse into Systems Thinking. Again, I was pleasantly surprised at the speed, breadth, and depth of their comprehension as evidenced in their questions and responses. It reminded me of the effort and excitement at Rewachand Bhojwani Academy. And it reminded me that if America is to remain competitive in the emerging markets of the global economy, we must continue to work towards the goal of increasing the level of Systems Thinking in our own educational systems.

References

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