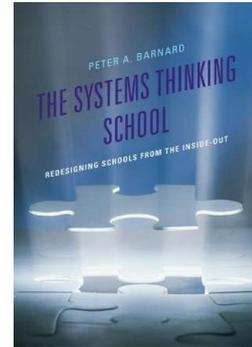*Book Reviews*

The Systems Thinking School: Redesigning Schools from the Inside-Out

Peter Barnard (2013). ISBN-13: 978-1475805819.

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Peter Barnard is a former high school principal. Now, he is a systems thinker, researcher, and trainer for topics that relate to systems thinking as applied in the organizational setup. He has his consultancy organization where "he offers free consultancy to organizations and work for fun." He holds a Master of Arts in Education from the University of London, and a Master of Arts, with focus on school improvement. Furthermore, he has written several books including *Vertical Tutoring* (2011); *From School Delusion to Design* (2015); and *Socially Collaborative Schools* (2018). In *The Systems Thinking School,* he explores the school as an organization through the perspective of systems thinking. This book also calls for rethinking in terms of learning relationships in the school.

Chapter 1. System Maintenance. Leaders must not habitually be immersed in the routines of the school. Instead, they should look back and reflect dispassionately; they must not be control-freak for it just prevents the school to become adaptable. Moreover, they must not be laissez-faire because energy will be directionless. Schools often appear to be adaptive, but, deep inside, it has not evolved. Therefore, it calls for systems maintenance that seeks interconnectedness and knowledge always. Systems thinking asks how work works, investigates the prevalently accepted norms and suggests changes based on redefinition and redesign. It understands that adding new parts to a broken system is nonsensical.

Chapter 2. A Systems Thinking Approach. The problems in the education realm should not be solved, instead dissolved; it means they must be seen as part of a bigger cultural mix. It entails both looking backward and forward and letting go of their accustomed beliefs and views. Senge pinpoints that today's problems come from yesterday solutions". Schools are no exemption; hence, leaders must understand that old processes no longer work for this new

age and that they must unlearn old values and habits. All these can gear toward a news space for learning.

Chapter 3. The System Thinking Process. It details the systems thinking process which involves (1) checking, which asks about school processes, purpose, and operations; (2) a synergy of learning and planning, which identifies points to better the learning culture and process; and (3) taking action, which undertakes concrete action to leverage the changes needed. Also, this thinking understands that subjectivities, with clarity of thought, can be utilized to see various perspectives and interpretations. It avoids traditional measurement approaches. The target of the system's thinking process is the redesigning of an operational system which can be made through shared understanding.

Chapter 4. Wicked Problems: Schools and Systemic Change. School reformers strive to make the broken system appear to work. On the other hand, system thinkers want the transformation to be authentic. Since schools are inherently based on the industrial and one-size-fits-all model, then any patch remedies will not work to attain a genuine change in schools. In schools, elapse of time, not customers, are important that; many things are being confused with such as diploma with competencies, etc. The author suggests a self-renewing model and new paradigm that can keep pace with the hyper-changing world; encourages unlearning of deeply ingrained customs that do not serve well; and advocates a change in learning relationships and communication flow. Recommended also is the shift from horizontal year systems to vertical groupings; this small change can create a ripple effect to other school areas.

Chapter 5. Wicked Problems and Loopy Solutions. A school itself is viewed as a wicked problem for it continually defies reform, perpetuates itself, and masks as an improvement. It continually is failing, and yet many target-obsessed-box tickers pull it in various directions. Schools utilize many techniques to improve, yet there is no real organizational change that happens. It is because, at the very core, a school uses a linear industrial design, wherein compliance, control, and coercion are its distinct features. Moreover, a school's design is problematic since it does not harmonize with the advancement of the present times. As a result, its graduates become unfit for the market. It is not the fault of teachers or schools, but it is just a mere fault. Further, he discusses that single-loop learning is concerned with the variables and actions of the system, while double-loop learning is concerned about the

fundamentals. Schools need to remember their true purpose and values, which can be analyzed by revisiting their learning relationships.

Chapter 6. Applying Single-loop Strategies to Double-loop Problems. Inherently, schools follow the industrial model, and hence no matter how many changes in technique, otherwise known as single-loop strategies, it would be futile. Leaders should focus on double-loop strategies which are the substance. Two of which are the home-school-child relationship and socio-emotional well-being. Horizontal tutoring groups (i.e., grade levels) are suggested to be replaced with vertical teaching (i.e., mixed-age) to spark life in schools. School should be qualitatively changed. "Systems cannot self-improve unless they are self-aware" (p. 65).

Chapter 7. Reform and Variation as Wicked Problems. When things go unusual, also known as variations, leaders investigate and identify their causes. This is not sufficient. Barnard explains that there are two types of variation: (1) special case variation, which is often "unpredictable, but can be put right when noticed" (p. 67); and (2) common cause variation, which is an organic result of the system. Then, this industrial school setup cannot keep pace with the hyper-complex world, leading to more problems. Though there are many reforms and corrective strategies, they still are patches that do not transform the core of the school. This model just strives to retain like-minded people; what is needed is a double loop learning which can deal with these variations.

Chapter 8. Child Development, Customer Care, and Adaptive Systems. A school should understand the value of interconnectedness; it must not place itself in an ivory tower. Therefore, schools should be mindful of the groups that influence learning (e.g., students, parents, media, peers, and other stakeholders) to reinforce systemic thinking. Barnard talk about customer care, the notion that everyone is connected with the school is a customer" (p.78). Meanwhile, the active personality system, which is the capacity to accept challenges, solve difficulties, and become creative of a child must be strengthened by these groups through the coordination of the school, instead of being hindered. The systems thinking school should run its learning process differently, in a way that "care and quality are built-in and never added on" (p. 87). Schools should see the reality and the opportunities given by practical systemic alternatives.

Chapter 9. The Systems Thinking School: First Principles and Interconnectivity. The way how a school operates impacts the students and learning processes; it is suggested to

break the linear grade system to make cultural and systemic changes. Tutors are utilized as the "learning conduit." Teachers must supply information on learning progress, not grades solely. Barnard recommends a non-linear double loop system. Here, every student has a personal tutor daily, supported by teachers and parents. The author further emphasizes the importance of social interconnectivity which holds all people in the school together.

Chapter 10. Mixed Age Mentoring. To culturally transform the school environment, it should start with abandoning the industrial model by implementing vertical tutoring in which mixed-age students are organized into mentoring groups. When students are teaching one another, this facilitates confidence, learning relationships, and leadership. Meanwhile, a complex adaptive system, rather than a linear mechanical line, emulates a dynamic life. This approach is powerful, since all people are involved, and high expectations are manifested.

Chapter 11. What Schools Say: Lessons from the Manager. To run the school effectively, school managers should work with families intimately. Peers should be given attention. Tutors and teachers must not be neglected, also. To promote quality learning, schools should understand first the prevailing processes. A school is a complex organization; it must be interconnected. A communication system must be put in place to promote trust end the communal engagement. Systems theory is also concerned about eliminating waste and is focused on contributing value. Barnard also puts forward that genuine transformation can be achieved through the synergy of vision and training.

Chapter 12. Building Systems Thinking School. To embrace the systems thinking school, it should start with vertical teaching, where a vertical tutor works with mixed-age children, preferably for 20 minutes. This tutor group is a balance of young people, which they should help one another. Then, the adoption of the new philosophy must be put into place, which can translate principles into action. The school now creates smaller, familiar vertical groups, where learning relationship flourishes; the older kids act as assistant tutors. This reinforces socio-emotional learning since they get to experience how to empathize and care. Everybody working in the school, including security guards, library personnel, etc., must take part in tutor groups. This strengthens the inclusive learning culture, leading to a whole school conversation. This changes how things are traditionally done. It redefines school and the meaning of learning.

Chapter 13. Assessment for Learning. Barnard pinpoints that assessment of learning is commonly thought as separate from the learning process when it should be not. In schools that use vertical tutoring, information is rich and abundant since all are interconnected. In a linear model, parents are kept at a distance because of the jargon and grades that are difficult to comprehend. As asserted by the author, assessment for learning should inspire motivation, innovation, and new strategies. It must involve a gathering of information about learning so that students know where they are and need to go. Meanwhile, it should be coupled with rich help from teachers, tutors, and parents; and this must be integrated into the school culture.

This book is one of the limited yet indispensable resources in terms of systems thinking as applied in the school context. Limited is the number of resources under this topic. Hence, this is an excellent addition. Here, the author utilizes stories and case studies to support his arguments. It is also an effective way to make the jargon of systems thinking understandable. He mentions prominent scholars under organizational studies like Deming and Senge, which has reinforced the book's credibility. He tries to make the book personalized by incorporating his personal experiences and reflections.

However, the reviewer personally finds the content difficult to follow because there are times that the author explains ideas more than what is necessary. This leads to the redundancy of concepts and ideas across chapters. Also, the 13 chapters can be grouped into three or four so readers can see the bigger picture. Moreover, it is suggested to modify the style. Reorganization of the flow from elementary to advanced concepts can promote better understanding. Being more succinct in communicating ideas can be of tremendous help to readers. All these can be utilized in consideration for its upcoming edition. Despite the points for improvement which are inevitable to any resource material, this book is highly recommended for school managers and to any stakeholder whose interest lies in systems thinking in the educational arena.

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