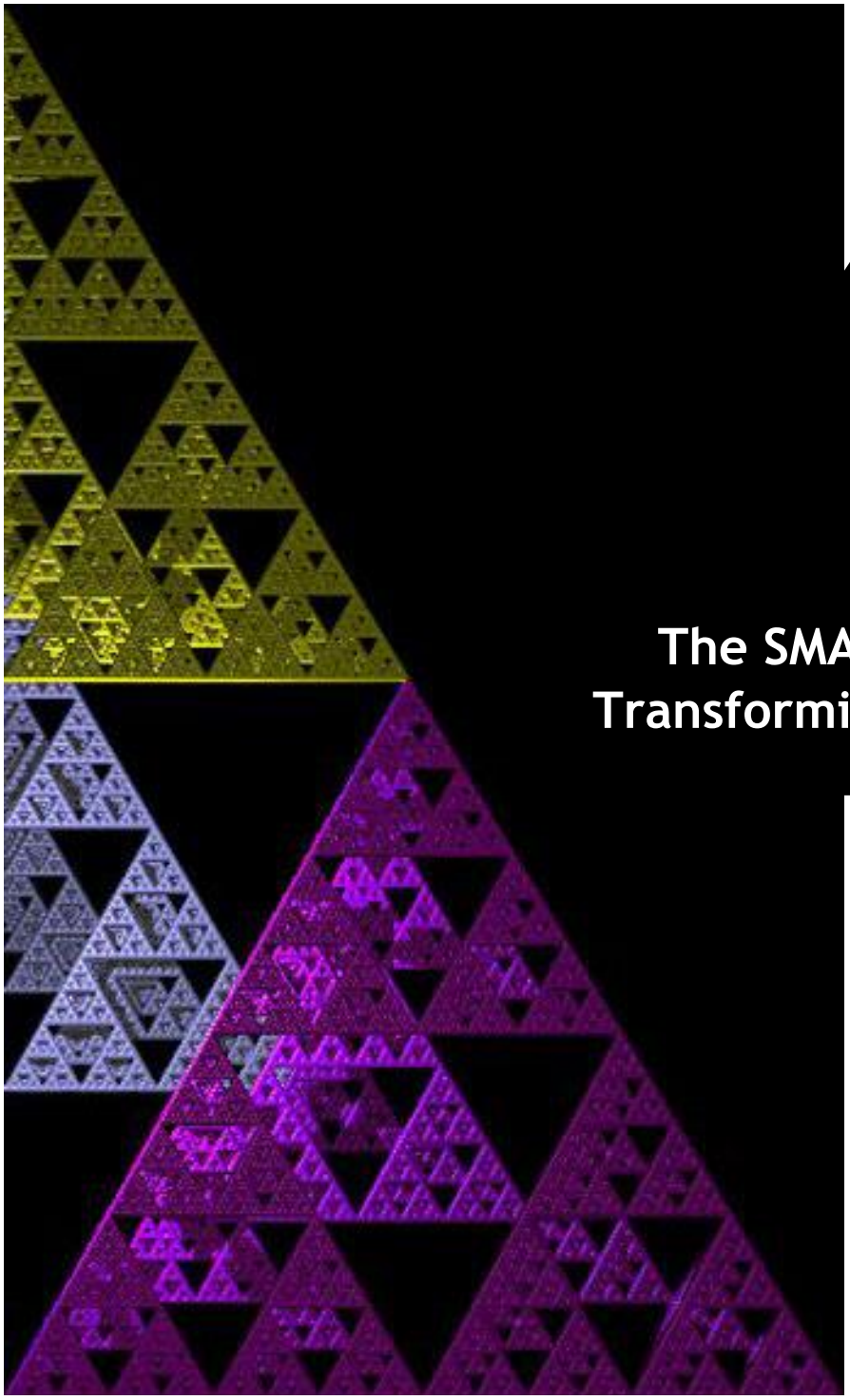

The SMART Learning System: Transforming Educational Practice

Learning is an active, ongoing and lifelong process that adds value to individual lives, organizational cultures, communities, global societies and the human race.

~ Anne Conzemius & Terry Morganti-Fisher 2011

Building a legacy of student-centered, goal-directed learning.

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The Case for a Focus on Learning

Imagine a learning environment that captures the innate sense of learning as a joyful and significant process, a Pre-K-12 public school district that has become a dynamic learning organization, where "learners (adults and students) take center stage as the drivers of their success." (Yates 2014) Contrast that image with traditional school improvement efforts where the focus is on activities designed to move students to higher levels of academic achievement as measured by periodic, isolated assessments of knowledge attainment, not learning or growth.

Improving educational practice, at its core, is all about learning. It's about the conditions that educators control and the actions, decisions and attitudes they impose on the learning environment that support or impede learning potential. Improvement–intentional change aimed at the advancement of better outcomes–cannot happen in the absence of effective organizational, adult and student learning. This paradigm informs a new set of questions that we should be asking:

- Are our organizations equipped and structured to promote relevant learning, not just achievement?
- Are they designed to engage all of our talents, wisdom and energies in alignment with a vision of success for every student?
- Is the entire system capable of learning and improving or is that the work of individuals or departments?
- Are equity and agency trendy concepts without a system for giving them life?
- Do we view data as a tool for learning or as a weapon?

Improvement processes, whether rooted in Plan-Do-Study-Act (PDSA) cycles for continuous improvement or breakthrough strategies for dramatic change and innovation, must incorporate a **learning focus**. Data and information provide the feedback for learning, and collaboration provides the means for learning. In this way, learning is the rationale, the vehicle and the evidence for successful improvement efforts.

People must learn themselves through change. ~ Linda Lambert

Three basic principles of learning provide the foundation for effective organizational improvement:

1. Learning is inherently motivating
2. Goal-setting, motivation and learning are symbiotic
3. Organizations improve when collaborative, goal-directed learning is embedded in the culture

Learning is inherently motivating

The act of learning plays a powerful role throughout our lives. It fuels motivation, promotes growth, unleashes potential and stimulates creative thinking. It is neutral, neither politically charged nor maliciously motivated. Learning is not merely the acquisition of content knowledge. It is a process that engages all forms of intelligence, playing an important role in everything we do, whether we're in a classroom, in an office, at a park, in a place of worship or at home.

Learning is our inborn mechanism for becoming who we are and what we do. In the earliest years, learning is inseparable from life itself. Simply put, we are motivated to learn from the moment we are born. We learn how to get attention, eat, crawl, walk, understand new words and speak. Young learners come to school with profound curiosity and enthusiasm for learning. However, the system of rules and rewards that we have imposed on learners does not always translate into successful learning outcomes; for many the result is a destructive outcome–complacency, compliance or defiance.

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Goal-setting, motivation and learning are symbiotic

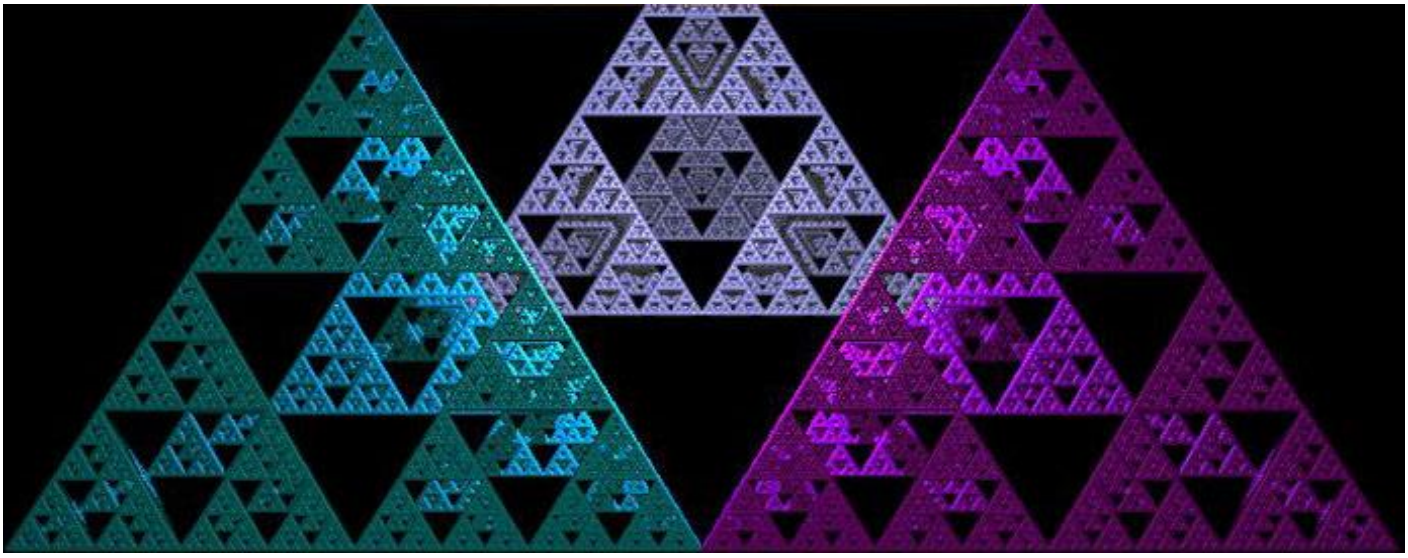
What can be done to reignite the joy for learning that, when we were toddlers, was so connected to life itself? The research on goal setting, motivation and learning suggests that these three elements work together to improve performance on goal-related pursuits, leading to higher levels of self-satisfaction and happiness throughout life.

Let's start with the simplest of the three – having a goal. Over the past half century, hundreds of studies have been conducted to examine the effect of goal-setting on success in academia, business, public service, community and personal wellness. The results overwhelmingly indicate that effective goal setting produces positive outcomes, regardless of the discipline being studied. However, simply having a goal does not guarantee its achievement–the **context** in which goals are set and the **process** used are most important. Processes that fully engage people in goal development heighten their sense of self-efficacy (one's belief in one's ability to succeed in specific situations) and contribute to their capacity to act purposefully to achieve them (agency).

Mitchell (1982) defined motivation as "those psychological processes that cause the arousal, direction and persistence of voluntary actions that are goal-directed." In other words, goals and motivation are intertwined. The act of goal-setting clarifies the direction of one's actions while the psychological properties of goal-setting create the desire to pursue them, i.e., the motivation to act in ways that lead to goal attainment.

The interaction of goal setting, motivation and learning follows a similar logic model, particularly when the focus of a goal leads to learning that results in achievement that is specific (Locke & Latham 2002) and measurable. Bandura's social cognitive theory (1986) contends that learners set goals they feel self-efficacious about attaining and believe that, when attained, they will result in positive outcomes. Learners evaluate goal progress as they work on the task. Their self-efficacy and motivation are strengthened by the evidence that they are making progress toward their learning goals. Self-efficacy is further enhanced when goals are attained, as is the motivation to set and pursue new goals.

It matters little what the performance is– academic, athletic, social or financial– learning is enhanced by the existence of a motivating goal that provides clarity of purpose to the actions one is taking to achieve it. Similarly, when the goal-setting process includes feedback on actual goal-related performance, learning and motivation are simultaneously enhanced. (Morisano et al. 2010)



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Organizations improve when collaborative, goal-directed learning is embedded in the culture

Learning cultures evolve from the intentional creation of structures, systems and processes that promote shared responsibility through collaboration and accountability for data-informed, goal-guided actions. Educational leaders control the conditions for organizational, adult and student learning by designing coherent, aligned and supportive policies in which all the people contribute to and benefit from continuous opportunities to learn. For organizations to improve it is essential that every person in the organization has a role and embraces the responsibility to be an active contributor in the learning community.

Evidence from various lines of research confirms the positive impact of collaboration on organizational effectiveness. The findings show that the stronger the perceived collective efficacy of any group or team, the higher their aspirations and motivational investment, the stronger their persistence in the face of adversity (grit), the higher their morale and resilience overall and the greater their performance on critical professional tasks. (Bandura 2000) This may help explain the results of a significant new meta-analysis conducted by Richard Ingersoll (University of Pennsylvania Graduate School of Education) in which a high correlation between teacher leadership and improved student performance on state assessments was discovered. "Schools with the highest levels of instructional and teacher leadership rank at least 10 percentile points higher in both math and English/language arts compared to schools with the lowest levels – even after controlling for factors like school poverty, size and location." (Will 2017) Furthermore, when teachers as a group are given more authority related to school-wide policies such as school improvement planning and determining the content of their professional learning, the impact on student learning is at its highest.

Learning Forward, the international association devoted exclusively to educator professional learning, has defined teacher agency as "the capacity of teachers to act purposefully and constructively to direct their professional growth and contribute to the growth of their colleagues."

Rather than responding passively to learning opportunities, teachers who have agency are aware of their part in their professional growth and make learning choices to achieve their goals.

~ Learning Forward & the National Commission on Teaching and America's Future 2016

Collaborative structures and processes, like those at the heart of Professional Learning Communities (PLCs), exist to provide opportunities for teachers to discover their own professional learning needs and to design new approaches to improving professional practice. When guided by collaboratively developed goals, within a process that systematically reveals student needs linked to research-based practices for meeting those needs, professional learning becomes focused on doing the right things and doing them well.

The SMART Learning System: 4 Goal-Guided Improvement Processes Focused on Learning

Our vision is simply stated yet profoundly difficult to accomplish:

All students achieving their goals!

This vision requires educators to think deeply and critically about why we do what we do at all levels of the organization. It requires a cultural transformation designed to shift multiple paradigms that are entrenched in past academic or organizational practice,

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structural, or rooted in current leadership roles, policies, beliefs and behaviors.

Whole-system change has three core characteristics: (1) it is about changing all the schools in a district, state or province and not just a few schools; (2) it always zeroes in on changing pedagogy – the way students learn; and (3) it always develops and traces the causal pathways to impact on measurable student outcomes.

~ Fullan & Edwards 2017

The assumption that school improvement is best left to individual schools should be challenged. SMART Learning System's SMART School Improvement Process (SSIP) is the pivotal mechanism for system change, but it can only be effective in the presence of strong, coherent and aligned support. Effective school improvement relies on the presence of:

- a guaranteed and viable curriculum
- common formative assessments
- opportunities for instructional depth and rigor
- professional learning tied to expected student outcomes
- data systems that are accessible and meaningful to teachers
- structures of time and place that bring teachers' voices together from throughout the organization

Whether a district consists of two schools or two hundred schools, a common school improvement process implemented within the context of a healthy, aligned system will yield profound results. A common direction and process across all schools provides valuable information to district leaders in two important ways: (1) identification of system-level improvements that will better serve school-based efforts and (2) determination of appropriate levels and types of resources that schools will benefit from when implementing their school, team and classroom improvement plans.

Conversely, the consequence of not having a systemic process will continue to be random acts of improvement generated by a finite pool of self-selected, well-intended and over-worked educators with little or no ability to sustain results over time. The system will continue to perpetuate new initiatives and mandates from above while desperate individuals in the "trenches" remain unable to effectively influence their own learning environments, much less those of the entire organization.

Let's consider our current practices for using data as well as the data sources themselves. The SMART systemic approach challenges districts to go beyond data analytics that hint at student achievement problems inferred from test scores and surveys. That paradigm may be minimally helpful for mainstream students whose achievement scores inch upward purely because someone is paying attention. Unfortunately, for students with specialized learning needs and challenges, traditional models of data analysis do nothing to close learning gaps.

The real power of data is not its numeric properties nor its calculated projections; it is what the information brings into professional dialogue to fuel the energy and ownership for learning and change. That ownership must be in the heads, hands and hearts of those who will lead the change at every level of the organization, including students. Educators who engage in processes that guide them through these essential conversations will ultimately **choose** to transform their educational practice.

Systemic transformation occurs only through a collaborative process of shared leadership, the establishment of

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a common focus, the setting of clear direction at all levels, the creation and monitoring of measurable goals and the involvement of everyone creating their own plan. . . . The power of systemic alignment is realized when all employees, stakeholders and students understand how their own work contributes to the top district priority: improving student learning.

~ Markward & Marino 2008

Four distinct SMART Processes–District, School, Team and Student–result in the creation of realistic, goal-focused improvement plans to assure that every student has equal access to highly effective teaching and learning practices regardless of which school they attend, which teacher they are assigned or which program is being taught. The processes work together to create interdependent patterns of success at the district, school, team and classroom levels.

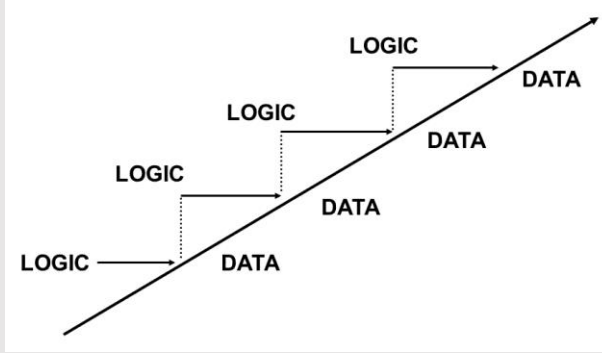
These interdependent patterns provide recurring feedback loops to all levels so that when any part of the system changes, the entire organization learns and can respond with similar success. As a result, actions taken are well informed and intentional rather than random or reactionary.

An appropriate visual representation of these patterns is the fractal, such as the Sierpinski triangle that appears throughout this paper. Fractals are infinitely complex patterns that are self-similar across different scales. They are created by repeating a simple process over and over in an ongoing feedback loop. As a system metaphor, when all parts of a system are engaged in repeated, self-similar processes for improvement at deeper and deeper levels of the organization, energy is generated and learning happens by design.

All four SMART Processes incorporate the essential components of S²MART. They are strategic and specific (S²), measurable (M) and yield attainable (A) goals with actionable plans that focus educators' practice on achieving better student learning results (R), managed and monitored within specific time frames (T). The strategic component of the four SMART processes is based on a statistical phenomenon known as the Pareto Principle. Through simple calculations and analyses, educators isolate their Greatest Area(s) of Need (GAN™) and create SMART Goals that focus their energies on doing the right things.

The Data | Logic Chain

Each of the four SMART Processes consists of a series of five steps that link data and logic in a progressive set of decisions and actions. After each step, additional data are gathered and analyzed to inform decision making at the next step. In this way, all data analyses serve a specific purpose for advancing improvement efforts. The data used for making decisions in each of the processes is aligned but is viewed at different levels (district-level data informs systemic decisions, student-level data informs individual student decisions, etc.). Each five-step process follows the Plan-Do-Study-Act (PDSA) cycle, with the greatest amount of time being spent in the planning phase (Step #1 through Step #4). The final step repeats the cycle within shorter time frames, allowing for continuous adjustments throughout the year, semester or unit.



The Data | Logic Chain

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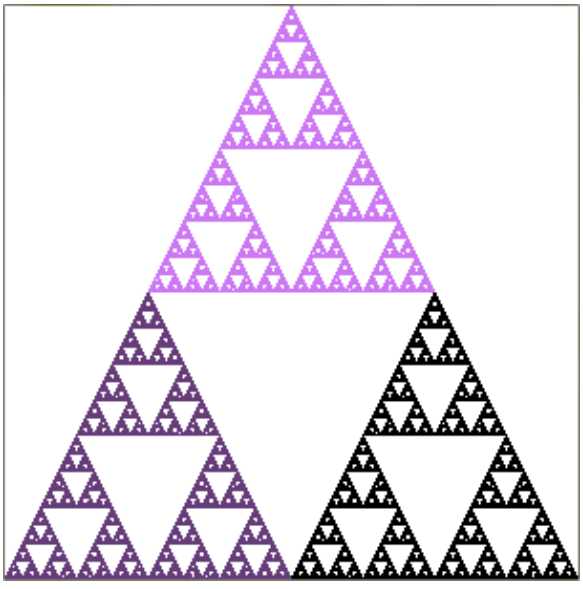
In Step #1 of each Process the focus for improvement is identified through the determination of GAN (Greatest Area of Need). With the analysis of additional, more specific data within the GAN, the team moves into Step #2 where a SMART Goal is created using our proprietary SMART Goal Tree™. From this point on, each successive step is designed to move the team toward goal achievement. In Step #3, strategies, methodologies or supports specific to achieving the goal are selected, based on research conducted between Steps 2 and 3. Step #4 produces a plan of action for learning, implementing and gathering evidence on the impact of the selected strategies, and in Step #5, the impact of the strategies on goal attainment is analyzed and adjustments are made to the plan.

The combined SMART Learning System Processes produce aligned goals, resources, actions and professional learning vertically and horizontally throughout the organization. At the Board and central administrative levels, the district's strategic plan establishes the overarching priorities for district policies, budgets, operations and academic achievement. As such, the strategic plan provides the context for our four-part system.



Explore the Sierpinski triangle fractal: https://bit.ly/2K6CFJn

SMART Improvement Science – Locally Grown and Kitchen Tested

ESSA–Every Student Succeeds Act, the newest Elementary and Secondary Education legislation–requires the use of evidence-based interventions in school improvement. Though the intent of this requirement is noble, even the worthiest of evidence-based interventions cannot guarantee improved results if the evidence has been gathered from vastly different environments.

Improvement science, by contrast, focuses on problems identified locally by schools and teams, "gathering data about the specific processes targeted for change, intermediate outcomes directly linked to these processes, and other key markers on the pathway toward achieving the ultimate aims." (Grunow, et al. 2015) Educators become fully engaged researchers of their practice, testing new ideas, reflecting, and gathering evidence on their journey to improve student outcomes.

While all four SMART Processes embed improvement science, the most powerful and rapid improvements are made by teacher teams (networks, PLCs) working with their students to test new ideas, approaches and methods based on individual and collective student needs. When improvement science is implemented as a whole-system approach, monitoring and capturing continuous feedback loops from throughout the organization, new learning can be refined, deployed more quickly, and implemented with greater fidelity at all levels.

We need smarter systems, organizations capable of learning and improving, that see learning and change as what it means to be vital, to be alive.

~ Tony Bryk

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How Do We Know We Are Getting Results for All Students Over Time?

The SMART Measurement System (S.M.S.™) is a map used to chart progress in creating the necessary structures and processes in the district and schools for effective use of SMART Processes. The S.M.S. iteratively examines three critical components of change: strategic focus, leadership capacity and student results. Data inputs include multiple measures of student performance, an evidence-based rubric (the SMART Indicators of Progress or IoP™) and district coherence and leadership surveys.

The S.M.S. is used by a Steering Committee or other leadership group to assess and monitor implementation and impact of the SSIP, through changes in leadership and over time, informing the system about where resources of support, time, dollars and people may be needed. Where data patterns of poor performance or equity gaps emerge across the district, systemic causes are analyzed and addressed. Where data patterns of exceptional performance in equity and learning are observed, the entire organization can learn from, celebrate, implement and sustain the results.

The keys include having in place a structure to generate improvement data, a system-level set of tools and processes for gathering the right evidence, and then engaging educators in ferreting out potential conclusions based on what is working or not, and why.

The Imperative

In *Turning to One Another*, Margaret Wheatley discusses the value of conversation as a critical tool for solving significant and entrenched problems that span a vast range of circumstances. Conversation is about learning together. It's not debate, idle chatter, or teaching; it's listening deeply and sharing what we have learned as we pursue a common goal, dream or solution. Educators are in a unique position to model this type of learning –in classrooms, board rooms and learning communities–where students, teachers, administrators and community members are equally valued contributors.

The courage to transform our schools comes from within each of us. It is fueled by an unwavering commitment to social justice, equity and belief in the power of learning. Agency, itself a fractal notion, is a fundamental prerequisite for collective responsibility at each and every level of the organization. When individual agency is intentionally designed into the organization's infrastructure, norms and beliefs, it translates into shared responsibility and collective efficacy for realizing the organization's mission.

The job of educational leaders is to build capacity not just for great results, but for continuous improvement of the quality and focus of the learning experiences that students and adults have within and throughout their organization. The four SMART Processes that work interdependently to create SMART Learning Systems are designed to fulfill our collective responsibility.

I think a major act of leadership right now, call it a radical act, is to create the places and processes so people can actually learn together, using our experiences.

~ Margaret Wheatley

This paper and the references cited can be found at smartlearningsystems.com.

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