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## Educational Ecosystems & Community Building: Conversations and Practices for the Transformation of Learning By Trace Pickering, Ed.D.

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*At every level of society, we live in the landscape of retribution. The retributive community is sustained by the marketing of fear and fault, gravitation toward more laws and oversight, an obsession with romanticized leadership, marginalizing hope and possibility, and devaluing associative life to the point of invisibility.*

-Peter Block (2008)

We are in the midst of a transition of gargantuan proportions. It's a transition of worldviews and it manifests itself in a battle between the systems we designed to maximize the Industrial Age and the systems of community and restoration lying at the heart of true democracy. You've seen the battles. You may have even fought in a few. You can watch them on TV, follow them on the internet, see it argued in the halls of government, and participate in them in your community. It is the fading Industrial Age paradigm's increasingly more desperate attempts to retain control over society against the growing movement to restore socio-cultural based and life-affirming communities, organizations and systems.

As these two worldviews fight for primacy in our schools and our culture we are rediscovering tools and approaches to aid in the transition to a new Age. These emerging practices and methodologies are often referred to as community building and ecosystem development. Such approaches are inherently transformational, help support and advance socio-cultural systems thinking and design, are well suited to tackling wicked problems, and present a hopeful alternative to the reform-minded thinking and action of the Industrial Age.

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## Transformation and Reformation

The word “transformation” gets battered around a lot today. I’m regularly assaulted for my insistence on people understanding the fundamental differences between “reform” and “transform.” They tell me my argument is tired and overblown. It’s not. The words we use provide a window into how we - consciously or unconsciously - understand and translate the world. Words are short-hand for concepts. Change the words (language) and you change the conversation. Change the conversation and you change the future. As Peter Block (2013) says, “all transformation is linguistic.”

Transformation and reformation are fundamentally differing ideas and we must fight hard against reformers usurping the word transformation. Transformation belongs to the socio-cultural world-view and we should declare and own it vigorously.

Reform is the notion that you can continuously improve yourself into something new; that the system itself is capable of getting where you want to go if only you put together the right mix of structures and processes driven by the right people in the right place. Reform assumes the whole is simply a sum of the parts and that by maximizing all the parts individually, you improve the whole. To transform means identifying the future you’d have today if you could have what you wanted and then working to create systems and ways of being to bring that future into existence. (International Conference on Systems Thinking and Management, 2004) For a more nuanced discussion, I recommend Russell Ackoff’s 2004 keynote to ICSTM, Francis Duffy’s 20 Laws of Transformation (Duffy, 2011), and my blog post on “The Two Faces of Change.” (Links and references appear at the end of this article.)

## From Tame to Wicked Problems

It is becoming increasingly clear our traditional orientation to systems thinking and problem solving is providing smaller and smaller returns while producing some nasty unintended consequences. As my friend and advisor, Jamshid Gharajedaghi (2006) says, “Americans are the greatest problem solvers the world has ever seen. Unfortunately, they solve all the wrong problems.” What Jamshid refers to, of course, is our culture’s tendency to quickly identify a problem so we can get to the work of applying a solution. It’s the beauty of the machine - speed and efficiency. This approach is deeply engrained in our culture because it was very effective for a significant period of time.

At some point, however, our relatively straightforward problems began to get more complex. Our insistence on continuing to frame problems and their solutions in a reductionist, cause-effect view of the world are making things worse. As Russell Ackoff so famously said, “The righter we do the wrong thing, the wronger we become.” (Ackoff, 2008)

It turns out it’s not so much that our solutions failed or that we’re getting dumber; it’s that the nature of the problems we’re trying to solve have been transformed. This transformation of the problem makes current and past problem identification and solution

applications obsolete - and the systems thinking that goes with it. In short, we no longer face hard problems, we face wicked ones and it turns out that's a difference that makes all the difference.

There is a common saying: "Problems cannot be solved at the same level of awareness that created them." Virtually all the solutions we've been trying for decades derive from the same level of thinking that created the very problems we are trying to solve. We then apply those solutions within the same systems, structures, and processes currently in use. It turns out that success is the devil as our great past solutions have created our current mess. We have been so successful in solving problems that we have transformed the very nature of our problems from ones we used to know how to solve, to ones we don't.

The term "wicked problem" was coined in 1973 by Horst Rittel and Melvin Webber who studied social planning and design. They had noticed a powerful trend happening as the 20<sup>th</sup> century unfolded and technology was accelerating the change we know all too well today. Social problems were not being successfully treated using traditional approaches, which basically included identifying a problem - or root cause - and then crafting and applying a solution to it. They argued social problems had been transformed from "tame" problems to "wicked" ones.

First, tame problems. Tame problems:

1. have a relatively well-defined and stable problem statement
2. have a definite stopping point, i.e. we know when the solution or a solution is reached
3. have a solution which can be objectively evaluated as being right or wrong
4. belong to a class of similar problems which can be solved in a similar manner
5. have solutions which can be tried and abandoned (Conklin, 2010)

For a simple example, consider the problem of energy. In mid-century it became clear America was going to have an energy problem as more and more cars hit the road and furnaces and factories started burning fuel oil instead of coal. The problem was a tame one and followed Conklin's explanation: (1) we need more fossil fuel; (2) we know we will have solved this problem when we procure more; (3) the solution will either work or it won't; (4) this is similar to our problems of finding enough coal and steel to run our factories; (5) we can try and abandon solutions without much consequence. So we solved this seemingly tame problem through off-shore drilling and engaging politically and economically with the Middle East. And just like that, our identified problem was solved and we moved forward.

But wicked problems are completely different from tame ones. Wicked problems are ill-defined, ambiguous and entangled with strong moral, political and professional issues. Wicked problems are contextually sensitive and highly stakeholder dependent. It is often

difficult to gain consensus on the nature of the problem, or how to dissolve it. In fact, wicked problems are never singular and instead display complex circular behaviors and interactions in an ever-evolving social context. Wicked problems become more intractable when problems are attacked as tame ones, one at a time, or with limited understanding of the set of problems the designers face. Wicked problems can only be approached holistically and systemically, not mechanically where it is easy to track cause and effect and apply a direct solution.

Rittel and Weber made it clear why default and traditional problem solving methods don't work:

"The classical systems approach ... is based on the assumption that a planning project can be organized into distinct phases: 'understand the problems', 'gather information,' 'synthesize information and wait for the creative leap,' 'work out solutions' and the like. For wicked problems, however, this type of scheme does not work. One cannot understand the problem without knowing about its context; one cannot meaningfully search for information without the orientation of a solution concept; one cannot first understand, then solve." (Rittel, 1973)

Our mid-century energy example is a case in point. The solutions to a seemingly "tame" problem at the time helped to transform our current energy problems into wicked ones. Today, when dealing with the problem of energy, we are dealing with the complex interactions of increasing demand, depleting supply, world and national economics and politics, societal expectations, national security, and environmental and health issues. The fact we assumed it was a tame problem in the past has exacerbated the complexity of the problem today. It is obvious our energy problem has been transformed into a wicked one. Still, many classical systems thinkers see the problem as a tame one: "we don't have enough fossil fuel." This cannot do anything but make things worse; often much worse.

Like energy, education has been transformed into a wicked problem. We've moved from the relatively tame problem of preparing people for machine-like factory work and advancing the "melting pot" theory to a wicked one in which we desire a much more nuanced and purposeful end: helping children unfold their full potential. As Horst and Rittel pointed out, wicked problems are of the social domain. Since education and learning are part of the social domain tame solutions provided by classical systems are doomed to failure.

### **The Existing System and Reform: Sedatives for Tame Problems**

The classic systems theory of the Industrial Age and its paradigms: the drive for productivity, standardization, efficiency, control, predictability, compliance, and tight statistical controls driving our consumer society, is well designed for reform and tame problem solving. As Duffy (2008) points out, the reform-minded Industrial Age drives a "rock-solid paradigm built on a foundation of continuous improvement, quick fixes, and a 'fix the broken part' mentality." This system is incredible at producing things that are the

same at amazing rates of growth, speed, and scale. Reform comes natural to mechanical-age systems and its thinkers because it works so well in improving the production and quality of inanimate, non-living things.

It should come as no surprise to us how reformers frame the “problem” of education as a tame one, what they use as evidence for those problems, and how they then formulate and deploy their “solutions.” Today, as in the past, reformers employ the Industrial Age paradigm in a way in which, “educational success is seen as a product of passing tests.” (Barnard, 2013) Rather than change the fundamental notion and outcome of school, reformers simply “double down” on things a mechanical system can produce and measure: test scores, graduation and attendance rates, time-on-task, teacher compensation and evaluation schemes, school report cards, charter schools, parent triggers, etc.

To the reformer the core assumptions of the education system are not in question. The “problem” is assumed to be the misapplication of generally known solutions and not the underlying purpose and design. To that end, the reform-minded tend to focus more on people or processes as the problem and typically provide a smorgasbord of solutions assumed to be largely independent of one another. Such an approach to the “problem” of education allows them to identify individual parts of the system and target them for “change” or “improvement.” Since Industrial Age systems thinking assumes maximization of parts means maximization of the whole, reformers see problems in all sorts of parts but not in the essential nature of their organizational view of the world. Solutions become sound-bytes of the “obvious”: bad or underpaid teachers, lack of competition, low standards, complacency, poor curriculum, poor instructional practice, and shoddy leadership. They are framed as beautifully simple, seductive, independent, tame problems to be solved.

If we are faced with a tame problem, like how to squeeze another 3% out of an existing system, then reform works just fine. But if we need to realize order-of-magnitude sorts of change, then we are faced with a wicked problem requiring transformation.

Why do the existing system frameworks and its leaders fail to embrace transformation? I think the answer is pretty straightforward. The system paradigm in which they perceive and manipulate the world simply can't do transformation; therefore it automatically is dismissed as undoable and incomprehensible. Humans are the opposite of machines and their tame problems: diverse, unpredictable, highly variable, unquantifiable, emotional, passionate, gift-giving, choice-making, capable of learning and development, possessing the ability to wonder and see the mystery of the world, and are driven by the need for connection and relationship. Any “solutions” to their “problems” are certainly wicked. How can systems designed to produce the opposite of all these things be expected to transform education from a place of production to a place of learning?

Make no mistake, the old systems in our lives and the people ensnared in the paradigm are doing their best to create that which their system cannot create. It's not that they are uncaring people it's that they adhere to an un-human systems view of the world.

Unfortunately, their tame solutions are catastrophic. When a system reaches and then extends past its carrying capacity and tries to achieve what it is not designed to achieve, things get worse and results get counterintuitive. What we get from these incapable systems are predictable but tragic: productivity fatigue, cynicism, quick answers to the wrong questions, suspicion, despair, fear of scarcity, a desire to accumulate (better test scores, more students, more money, more political support, etc.), conformity, inequity, stress, illness, and violence. These systems - designed for productivity and consumerism - convince us of our emptiness, that we are people with voids needing filled.

These systems fight against true transformation because transformation, at its very essence, suggests that gatherings of people have the power to create their own future. To believe this is to believe in the fullness of people and communities. Such a belief reduces the need for and power of classically designed systems and shakes the very foundations of that view of the world and its purpose.

### The Reform Narrative

In schools we see the classical view of systems manifested in the story of the 3<sup>rd</sup> grader, told by the system and its leaders and it goes like this:

8 year-old children, called “3<sup>rd</sup> grade students,” must be able to read at a pre-determined and arbitrarily-selected point in time as they move along the 180-day, 13 year assembly line. When they do not reach the end of the 720<sup>th</sup> day (or step) of the line capable of reading to our standard they have a problem. Our research about how our system plays out shows their outcomes will be significantly reduced. When these poor students reach the end of the assembly line, they will be too far behind to catch up, won’t have the skills necessary to come out of the factory as a complete and predictable product, and their utility and productivity as adults will be hampered. Therefore, we must take these deficient students and provide them with more resources and help. We must provide them with:

- special curriculums and programs
- more time engaged in reading instruction
- more teachers in their rooms
- better trained teachers
- more testing

Of course, all of these products and services are available for sale (we accept votes or cash) because we’re here to help! If, of course, none of this gets the student caught up on day 720, we will then conclude it is the product that is faulty (and in some cases the teacher), since all reasonable improvements and changes have been instituted. Faulty students must then be returned to day 540 to try to learn what they refused or were incapable of learning the first time. This is done for their own good. We do not want to have to do this, because rework is expensive and inefficient. We do it because we care.

This is the only story the reformer can tell because the entire system hinges upon someone needing something that they believe they cannot provide themselves. Reformers need a consumer, a buyer. We (not just reformers, unfortunately) even use de-humanizing words - note that we replace the word “children” for “students” far too often. Reformers want to solve our problems and problem solving can never lead to an alternate future, it can only improve a bit on the past. Barnard (2013) summed it up nicely when he said,

Reformers use patches confusing them with changes. The problem is that we are using industrial tools to fix industrial organizations and this merely keeps the machine chugging along in the same direction. The tools we have are system repair tools not system design tools.”

### Communities & Ecosystems: Tools for Transformation

If the Industrial Age system cannot produce learning then what can? If we’ve been utilizing repair tools and instead of design tools, then what are they and how do we use them?

In the January, 2013 *F. M. Duffy Reports* Barnard makes a beautiful case for small system change preceding big system change. It is important to remember there are multiple whole systems contained within ever larger systems. A school can be treated as a complete system which is contained by the district, which is contained by the state, which is contained by the nation, which is contained within the world’s education system. To view systemic redesign from too high a level creates, by default, command-and-control, choice reducing hierarchies designed more to manage size and growth than to develop people and learning. Therefore, the transformation and redesign of our education system must begin at the school and district levels *because that is where the most choice exists for those directly involved*. From there, we can collectively begin influencing the larger containing systems of which our schools and districts are a part. “Managing a system is therefore more and more about managing upward. Leadership is the ability to influence those whom we do not control” Gharajedaghi, (2011).

I suggested that Industrial Age systems can’t do transformation. This is because “transformation occurs only through choice” (Block, 2008). Unlike reform, transformation cannot be coerced, mandated, sold, bartered, bribed, negotiated, or threatened into existence. Choice is a useless and foreign tool to the classical system construct that loves order, standardization, scalability, and predictability. If transformation is achievable only through choice then perhaps the best answer to transforming our schools lies in our communities.

Transformation means engaging the community, where choice is not simply an empty word or mantra for a narrow agenda but holds restorative power. Wicked problems are dissolved and the creation of an alternative future are only achieved through social processes, not through industrial-age hierarchies and traditional power brokers. Where

large bureaucratic institutions move slowly and take only presumed “safe” routes to change, strong social networks have the ability to rapidly prototype new designs for new outcomes. (Conklin, 2010)

Transformation, then, cannot happen but with and through community. Only in community can deeper questions be answered. It is in the community’s answers to the questions: “how do we want to raise our children?” and “what is the ultimate goal of education?” that hold within them the power of transformation. It is the community’s answers that craft a holistic, integrated, interdependent design for learning and the unfolding of their children’s potential and which gives them the power and choice to execute on it.

Unfortunately, our communities have slowly and steadily abdicated their power and authority to the classical system designed to make things efficient through the creation of sameness and predictability. We are now faced with a dual problem - how to help communities both reclaim their efficacy and primacy and to understand and apply socio-cultural systems thinking and practice. Communities must first quit abdicating their power to outside others, “experts,” and distant institutions and then go about the work of creating the future they want.

There’s good news in all of this, however. First, we have a strong theory and methodology around socio-cultural systems thinking and design with many excellent practitioners who can offer support and encouragement. I find Gharajedaghi has combined and enhanced the thinking of Ackoff and Forrester as far as anyone and provides a solid methodology for managing chaos and complexity. Second, the emerging field of Community Building is producing a myriad of tools, processes and ways of thinking both supporting socio-cultural systems thinking and providing avenues for communities to reclaim ownership of their schools through the development of strong ecosystems of connected people willing to act.

The remainder of this paper explores the emerging tools and practices of community building and ecosystem development I believe are pre-requisites of and powerful forces for the transformation of education. My own journey has shown me the incredible power of a deep understanding of socio-cultural systems thinking combined with the tools and processes of community building. Since community building is an emerging field, the following do not represent a definitive set of tools and processes nor do I go far in describing their nuances. My intent here is to share what we have been learning and seeing as we apply and explore in this space.

### **Concepts of Community and Ecosystem Development**

While there is a growing number of thought leaders and practitioners in the field of Community Building I’ve been most influenced by the work of Peter Block, John McKnight, Parker Palmer, and Brad Feld. Block and McKnight have been exploring the notion of community and connection for many years. Palmer pushes for a return to associative life and community in order to restore true democracy. Finally, Feld has

helped to lead the development of an entrepreneurial ecosystem in the community of Boulder, Colorado utilizing the tenets of community building.

In addition to these thought leaders my colleagues across Iowa have contributed mightily and the work I share is not mine, but ours. We have been learning, exploring, and experimenting with these concepts in our community - Iowa's Creative Corridor - which includes and surrounds the major communities of Iowa City and Cedar Rapids as well as across the state of Iowa. You can see the development of our work at [www.communitybuilding.us](http://www.communitybuilding.us) and [www.iowatransformed.com](http://www.iowatransformed.com).

Peter Block is arguably the leading thinker in the realm of Community Building and its ability to bring a collective and desired future into existence. Block has identified three concepts that must undergird any community building and transformation effort: abundance, gifts, and hospitality (Block, 2008).

Communities, used in the broadest sense, must embrace the abundance mentality. This simply means understanding the community has within it the power and ability to transform itself. Abundance, translated to cognitive psychology, simply means reclaiming one's sense of efficacy and the belief you can be the change you want to see in the world. An abundance view releases the gifts lying dormant in the community, helping people to see that the expertise they have been looking for is already present among them. Hospitality simply means inclusiveness; inviting and engaging with the diverse voices and viewpoints existing in the community. It is an active rejection of the "echo-chamber" in which only the powerful, loud, and conforming voices are heard and appreciated.

These three conceptual ideas create a frame from which anyone can begin to help build community and encourage the creation of a desired future for our children and their education. What is required, beyond a mental shift of paradigm, are tools and processes that help move a community forward in reclaiming responsibility for and the design of their children's education.

### **Networks & Community: Wicked Problem Power Brokers**

Today we see the ability to create energy, activity and innovation not in the tried-and-true institutions and layers of formal organization but in networks; networks of people, places, ideas, and democratically-oriented organizations. (WorldBlu, 2013). Nuanced and highly inter-connected, these groups live in loose but highly integrated and democratic networks. When these networks coalesce and become purposeful about the future they are uncovering and bringing into the world they become a powerful force for transformation.

Tools and processes designed to create, connect, and sustain these sorts of communities are the essential design tools that Barnard calls for. One of the most successful applications comes out of Boulder, Colorado and the work of Brad Feld. Feld is an entrepreneur and investor who helped create, over a period of nearly 20 years, a

thriving entrepreneurial ecosystem in Boulder. Feld's "Boulder Thesis," while focused on the development of an entrepreneurial ecosystem, has direct application and relevance to education. If community is the place for transformation, then the development of a strong and vibrant educational ecosystem is essential.

### ***The Boulder Thesis and the Educational Ecosystem***

The Boulder Thesis lays out a four-component framework for building and sustaining an ecosystem capable of adapting, changing, and succeeding in times of rapid change and uncertainty. The Thesis, translated for education:

1. **Leaders Lead, Feeders Feed.** Local educators, parents, and those closest to the classroom and school must lead the education community rather than simply follow externally driven initiatives, mandates, and ideas.
2. **20-Year View.** Leaders must have a long-term commitment to and view of their community. Such a viewpoint mitigates the desire for speed over effectiveness, and puts failure and setback into their proper perspectives.
3. **Inclusivity.** The education community must be inclusive of anyone wanting to participate and actively encourage and promote such participation.
4. **Activity.** The education community must have continual activities engaging the entire network in ways that connect people, ideas, and actions.

These four are critical to unlocking the power of each community and embody within them Block's undergirding concepts. Building an ecosystem utilizing The Boulder Thesis can help rid us of the incessant drone of prescribed non-solutions to our problems, and help communities design learning and schools truly unfolding the potential of every child (Feld, 2012).

### **Leaders Lead, Feeders Feed: Operationalizing the Boulder Thesis**

Feld argues this is the single most important component in the development and sustainability of a creative, adaptable, future-focused ecosystem. The concept is deceptively simple: the real leaders must lead. Unless local educators and citizens-teachers, students, parents, community members, administrators - step up and lead the educational ecosystem, the ecosystem won't thrive or survive. Ecosystems dominated and dictated from the outside and from above are feckless, sterile, reactionary and dependent. Such systems cannot survive in times of massive chaos and complexity.

Unlike entrepreneurialism, education is an entity of state government and highly regulated by both state and national governing bodies. Education is funded by the state, ruled by the state, and generally at the mercy of elected officials and appointed bureaucrats. From this emanates a whole host of groups and organizations involved in the educational community including but not limited to: state departments of education, state-sanctioned committees and task-forces, state and national organizations, special interest groups and think tanks, intermediate service agencies, colleges and universities,

city and county officials, PTA's, booster clubs, civic organizations, national and local businesses, and vendors and service providers of all kinds.

Historically, many of the above organizations have and continue to see themselves as the leaders and often try to control and guide school reform. Many of these organizations and groups can and should play an important role in any educational ecosystem but they can no longer be the leaders. Let me repeat: *they can no longer be the leaders*. The local educators and the community have to be the leaders when system design rather than system repair is needed.

### The Leaders

Leaders of an educational ecosystem must be the educators and other passionate people in the communities and classrooms doing the work. Everyone else is a feeder. *Both leaders and feeders are critically important* for a vibrant and successful ecosystem but their roles are different. Since educational systems were designed by factory-age hierarchies and formal power structures, the biggest challenge in creating an educational ecosystem is creating the conditions whereby feeders begin to both understand their new roles and begin to see the value in them. Feeders have a big shift to make - from that of de-jury and de-facto leaders to that of critical and supportive feeders. Equally challenging is helping the community understand its new role as leader.

Ecosystem leaders must understand they are making a 20-year commitment that resets every morning. This long-view is necessary for leaders to manage the inevitable ups-and-downs that come with an ecosystem working to improve the lives of a community's children. It helps leaders escape the too-short and artificial cycle times of politics and government as well as economic cycles, making it clear why elected officials and bureaucrats can no longer be leaders. Over the 20 years the leading educators will no doubt engage in different practices and flow through natural professional and personal phases. Such a view, whether or not they actually lead for 20 years, ensures the focus remains on long-term, sustainable work rather than becoming yet another group grinding on one axe after another.

Leaders take on a variety of roles. The beauty of a strong ecosystem is the myriad of leaders who can fulfill and sustain this work. Different leaders will assume specific work like organizing meet-ups and tweet-ups, interacting and engaging with important feeders to ensure strong connections and support, connecting and expanding ecosystem participation, and actively working to influence upward and outward to larger systems of which is it a part. Leaders work tirelessly to ensure the ecosystem remains open and highly inclusive. They welcome anyone who wants to participate and deals with the infrequent "bad actors" in firm but humane ways.

Finally, leaders set an example and are tireless in their evangelism for the educational ecosystem. Leaders put their community and region ahead of their self-interest simply by just doing stuff. That's it - they just do stuff. They take action and they share their

successes and failures widely. By acting they give others the authority and permission to become leaders and active agents as well.

An educational ecosystem is an ever-evolving and developing social system and, as such, there is no leader of the leaders and there is no formal structure. Rather, it is a loosely organized, broad and evolving group of people and connections. The inclusive philosophy of a vibrant ecosystem makes it easy for the “next right” leader to emerge in organic ways. Only “real” leaders emerge -leaders because others choose to follow them. There are no assigned roles and no hierarchy of responsibility and authority. People who take on specific roles do so because they are choosing to, not because some power-broker decided or some committee was formed to hand select “their” person. While educators aren’t always accustomed to such a loosely organized system, they quickly find energy and excitement in the rapid and continuous development and evolution of the ecosystem.

### **The Feeders**

Feeders are everyone else involved in the ecosystem. Feeders provide the support, resources, and expertise needed to ensure the leaders succeed. This includes government and all its subcomponents including state departments of education, committees and task-forces; universities and colleges, think tanks, state and national organizations, intermediate service agencies, city and county officials, PTA’s, booster clubs, civic organizations, local businesses, and vendors and service providers of all kinds.

As mentioned earlier, many of the above organizations have been and continue to see themselves as the leaders and so they very naturally try to lead. Whether by appointment, formal position, political influence, or default these groups and the people in them typically play the role of leader or operate as if they are the leader. In the prior industrial age many of these groups did lead and it made sense for them to lead. No longer. In a hyper-connected, global world hierarchies are ill-designed and ill-equipped to lead. It is strong, vibrant, highly-adaptive networked ecosystems where today’s power resides. Feld is very clear on this point, “Historically, many of the feeders thought of themselves as leaders. This has been one of the primary inhibitors of the long-term growth and evolution of many communities” (Feld, 2012).

It is of critical import feeders come to the realization that being a feeder is not a bad thing. In fact, it is a clear description of their critical and specific role in a successful ecosystem. An educational ecosystem trying to transform education for the world we face simply can’t do it without both leaders and feeders. However, the absence of local actors as leaders or an overwhelming leadership by feeders will doom the ecosystem and the educational system it is trying to bring into the world. In a highly-contextualized, rapidly-evolving world, it is the leaders who must forge the way and the feeders who must provide the critical resources and support to make that happen.

It is also important to not assume a false dichotomy here. Can a person who's technically a "feeder" be seen as a leader in an ecosystem? Certainly, so long as that person has followers who have freely chosen to follow them and they adhere to the principles of the Boulder Thesis. It only gets compromised when a feeder (whether an individual or an organization) chooses to wield traditional power methods as a means to dictate, control, or manipulate the ecosystem (e.g., a traditional organization attempting to select, promote, coerce, accept or reject other people or ideas emerging from the ecosystem to ensure its views and organizational ends are primary in the ecosystem.)

### **Inclusivity and Engagement**

The education ecosystem must be inclusive of everyone who wants to participate. The leaders must be open and welcoming as the strength of the ecosystem is dependent upon the diversity of the community. It is important to remember an education ecosystem is not a zero-sum game, where more members and more involvement dilute everyone's influence and power. The opposite is true as the stronger the involvement the stronger the influence not only of the network but of the individuals in it. This is why the traditional leaders and the hierarchies and closed systems they work from are ill-equipped to lead an education ecosystem - the tendency to choose leaders and exclude certain groups and ideas run counter to a thriving ecosystem.

Perhaps the greatest challenge facing the development of a strong and vibrant educational ecosystem is the ability to create and sustain regular activities engaging the entire "stack." For a community to jell it must regularly engage in events and activities purposefully connecting the various elements of the community. The "stack" includes not only the leaders but all members of the community - all of the feeders, the other educators, the parents, and anyone else who wants to be involved. Given most educators are tightly tied to relatively inflexible schedules it takes extra effort and attention to develop a continual set of activities making it appealing and easy for other educators to get involved and receive value.

In general, there are three basic types of engagement necessary to develop a strong ecosystem. One involves shining bright lights on the people doing good things and advancing the cause. The second is engaging in deep and meaningful shared learning and development. Finally, there must simply be activities that bring people together to meet, connect, and develop deeper relationships. Taken together, these activities deepen connections and facilitate efficacy and action towards a transformed educational future.

### **Engage by Doing Something**

Feld learned, "it's hard to separate interest from action" (Feld, 2012). When any leader or group of leaders step up and start doing stuff, it creates natural energy and interest. Lots of other well-meaning folks take note and also express interest in playing. This is great, but the health of the ecosystem requires the constant engagement of leaders, feeders, and members who have the long-term commitment. Feld developed an easy solution

and one we have had initial success with as well. Give assignments to people who want to play. They don't have to be difficult or nuanced; they just must require some action. By giving people tangible things to do, you quickly separate those willing to engage from those merely looking to network or get something from the community. The mantra, "give-before-you-get" is an important one and leaders must challenge anyone interested in the ecosystem to demonstrate this through their actions.

From this simple but powerful approach Feld learned something very interesting. For every person who raises their hand, 50% won't do anything with the assignment, 25% will do the assignment and engage, and the other 25% will do something magical! This trend is proving true as we build our ecosystem in Iowa. For example, I recently ran across a high school blogger writing about education. I invited him to contribute to our education ecosystem website. Two days later he provided an amazing assessment of education from the student perspective. It quickly became the most commented article on the site. We then invited him to an IowaEdCamp event and he came and actively participated. His Student Voice column is now a weekly part of IowaTransformED where people regularly turn to for the student perspective.

Finally, every ecosystem needs cheerleaders. These cheerleaders can be the leaders and the feeders or anyone else who takes note of the great things going on. The community should be proud of its efforts and not be afraid to share their successes. The cheerleading can take on any form, but no matter how or what, make some noise about what you're doing and seeing. In our ecosystem we call this "shining bright lights on people doing awesome stuff."

### **Declare a New Narrative**

Narratives - stories about who we are, what we do, and how we see the world - are incredibly powerful tools for shaping and defining a culture and community. Our society has largely marginalized storytelling and we have allowed institutions and power-brokers to be the dominant storytellers in our culture. We have forgotten the transformative power of a good story. It's time we declare a new narrative. A story sharing the picture and possibility of the future as it lives in the world today is the most powerful tool of all. This is the first and most important task of the educational ecosystem. The community must engage in creating an image of the future it wants, show examples of that future already existent in the present, and develop the capacity to create that future using appropriate systems thinking constructs.

Currently, the reformers and the institutions are leading the narrative. They tell their story of the 3<sup>rd</sup> grader in soft and compelling ways to make us believe they know what is best for us. But their stories have a tragic flaw; they fail to paint a picture of the future we want and instead call out our fears by identifying what it is we so desperately want to get rid of. You see, the story of the 3<sup>rd</sup> grader is a story of fear, fecklessness, and failure. It tries to convince us that horrible things will happen if kids don't keep up with the system's schedule and only they can "fix" it and save our children. This causes us to fear an

alternate future because we are told it isn't possible to achieve and will set us adrift and away from the institutional life we have come to depend on.

Declaring a new narrative is a critical element in bringing about readiness for true systemic transformation. Our stories can't be science fiction, so far "out there" that it is easy to dismiss as folly. The good news is there are stories waiting to be told that are real and in the now. As Peter Block says, "the future we desire exists in the present, we only need find it and show it to the world." (Block, private conversation, 4/5/13) We must give space and voice to the storytellers who find and shine bright lights on the future as it lives in the present. As systems thinkers and designers, this must become a much larger part of our work.

Gharajedaghi makes a compelling argument for why storytelling is such a powerful and essential element of and for design:

Penetrating the shared image is more a question of excitement than logic. An exciting image of the future coupled with the instinctive human desire to share is a powerful instrument of change. This is why active participation of members in producing a design is the fundamental, uncompromising operating principle of interactive design (Gharajedaghi, 2011).

If creating a new narrative is so critical to transformation, then how do we go about doing it? Through our communities and our connections we can find not only the stories but the energy and connectedness to see and bring into existence a shared, exciting alternate future. We must invite, engage, connect, and do.

### **Announce the Ecosystem**

An important step in bringing together many small and disparate networks spread throughout a community and ecosystem is to declare the existence of the ecosystem. This isn't to control or subjugate other networks to it, but to help frame the purpose of the ecosystem. Ecosystems exist to develop a particular culture, pursue a big audacious idea, and create a shared future. You cannot pretend your ecosystem is simply a place for anyone to jump in and do stuff willy-nilly because the reformers will work hard to turn it to their advantage.

Take Feld's work in the startup community. It is clear what the ecosystem is and is not about. It is quickly apparent the startup community is unabashedly about creating a culture for entrepreneurialism and creativity to develop and thrive in the Boulder area. It is not about developing a community of Mom-and-Pop shops or developing efforts to bring in big manufacturers or employers. It's not to say Feld and those in his community don't care about these things, but it is not why people join the ecosystem. In educational ecosystems, this same clarity must apply. In education there are at least two distinct world-views regarding what needs to happen with schools. Your ecosystem must be clear about its general world-view and why people are engaged in it.

In Iowa, a growing group of transformational-minded educators and community members are declaring the existence of a transformative ecosystem. For an example, please see the “Developing Iowa’s Educational Ecosystem to Advance Transformative Education for Iowa’s Children” manifesto in the Appendix. Please note this in no way dictates the means, chooses winners and losers, or restricts active members from pursuing a multitude of different directions. It simply outlines core beliefs and expectations of membership.

### **Create a Parallel Universe**

As our group worked to define the purpose for our ecosystem, we reached out to Feld for his thoughts and advice. One of our struggles was, “how do we interact and influence the larger systems dominated by political posturing, a desire to lead and dictate, and overly influenced by and stuck in reform-minded solutions?” Feld’s answer was at once simple and profound. “Your job is to create a parallel universe in which you live today in the world you want to create. Over time, your parallel universe simply overwhelms the existing universe and becomes the dominant and the default” (Feld, 2013).

This is what Block talks about when he reminds us that the future already exists in the present; you just have to be in a mindset that allows you to see it. This thinking goes hand-in-hand with systems thinking. As systems designers, we understand reform is the strategy of continuous improvement and incremental change within the existing frame and so it makes sense to create a parallel universe. We haven’t had much success with frontal assaults on the dominant culture and systems-view of the world so let’s employ a different strategy.

This doesn’t mean you don’t interact with the people and work of the existing framework, it simply means you quit pouring so much time and effort into trying to change it. Your best strategy is to simply begin living in the future you want and connecting more and more people to it. An on-going commitment to creating this parallel universe is how you ultimately change the world (Feld, 2013).

### **Replace Zero-Sum Gamesmanship with Duplicative Leadership**

Most of us were taught, overtly or covertly, that leaders and organizations played zero-sum games and this is the best way to “win.” Our success in the Industrial Age suggests the belief worked exceedingly well, but it has become a failed strategy in the Creative Age. The obsession over sorting out “winners” and “losers” is, well, just plain stupid in the world we live in. Playing a zero-sum game in the context of an education ecosystem is counterproductive as it creates divisiveness, unhelpful competition, hierarchy, and exclusivity - all things that kill an ecosystem.

Zero-sum mentalities and games artificially restrict and limit innovation and lay to waste massive amounts of untapped potential. In short, zero-sum games engage in deficit-thinking which believes there must be winners and losers and the job is to quickly identify those who “can” and the ideas they like best and drop all else. Approaching your

ecosystem with the mindset of abundance, openness, and possibility allows what I call “Duplicative Leadership” to emerge.

Duplicative leaders believe in several key things: 1) communities have the skills, tools, expertise, and ability to bring to life its greatest vision for itself; 2) no one knows where all the great ideas, people, and activities reside; 3) there is no one path, algorithm, or idea that will deliver the silver bullet; 4) important questions are far more valuable than answers because it is the great question that unleashes an unlimited amount of potential right answers; 5) finding the gifts and expertise of people and encouraging and developing that instead of spending time figuring out what’s “wrong” with them or if they are “right” is the pathway to a bright future, and; 6) open, transparent, opportunity-expanding ecosystems should be able to create something effectively dissolving wicked problems and providing access to a better future.

The work of the duplicative leader, despite the large list above, is deceptively simple: generate more activity, conversations, connections, and sharing as this will generate more attention to the education ecosystem, which generates even more activity. The logical end? The ecosystem and its work become so “loud” and successful it will become the tipping point that changes everything. As Stafford Beer once said, “Acceptable ideas are competent no more and competent ideas are not yet acceptable” (in Gharajedaghi, 2011). The goal of the leaders in an educational ecosystem is to provide a space for the competent ideas to emerge, to spread like a virus, and to eventually gain acceptance.

The best ecosystems have leaders who embrace everyone wanting to engage and help build long-term foundations for on-going and continuous development. Unlike zero-sum leaders, duplicative leaders understand failure is a part of deep learning and, as a result, recasts the notion of failure from that of identifying the “losers” to one identifying the “learners.” When a member of the ecosystem has an epic fail something very important has to happen. The ecosystem has to have a celebration, embrace the person or persons who stumbled, and ensure they stay in the ecosystem. Why? Because we all must learn from the misstep and understand that at some point we’re going to screw up and that it is okay. Failure is only fatal if you don’t use it as an opportunity to learn and to get a clearer glimpse of the best pathway ahead. Make these folks mentors and advisors. Have them share their stories. Hold them up as the people who helped us all move forward.

Why is all this so important? First, there are plenty of formal leaders and organizations fighting as if they still operate in a zero-sum game - trying to win over public opinion, leverage political power, choose winners and denigrate losers, and further feather their own economic or ego nests. Leave them to their frivolity. You and your educational ecosystem have more important work to do - to create a learning system worthy of our children. Education has the power to preserve our national security and to propel America confidently into this new Creative Age. The game has changed and with it the power to get things done. The power now lies in hyper-connected ecosystems of people actually doing the work. The only help they really need is access to a vibrant educational

ecosystem supporting their efforts to challenge, think, question, test, fail, succeed, and share. Only Duplicative Leaders are suited to this challenge.

### **Have Open Boundaries**

The best ecosystems have porous boundaries, particularly when it involves individuals. This should seem obvious in education where there doesn't appear to be many direct competitors or industry secrets. Why wouldn't boundaries be open and porous? The problem is having relatively closed boundaries is a property of traditional institutions and it is these institutions traditionally leading and defining the conversation. When the true leaders begin to lead, they create a new level of openness, one that might be desired by the more formal institutions and structures but is beyond their design parameters.

There are a myriad of clear examples. When the state or an intermediate service agency or a district wants to initiate a task force or committee to study an approach or craft a policy or direction it is naturally exclusive. Only so many can play. The more distant the group from the children, the more exclusive and the less likely they will produce a meaningful and sustainable result. Yet our institutions continue to rely on this approach to real change and transformation. Witness any state level task force or committee and you'll find a large group of people representing every faction and special interest group with the political power to gain a seat: the big, urban schools, the teachers union, the administrators association, the school board association, the department of education, an "R" and a "D" legislator, etc.

Effective and future-focused ecosystems and their leaders understand the power of open borders. It is here where any passionate person can step in and contribute. It means an order-of-magnitude difference in diversity of voices in the room. Ideas develop, combine, adapt, and succeed when many people with many perspectives try them on, add their touch and interpret them in real contexts.

Open boundaries provide the network the opportunity to learn and develop in directions not available to closed or restricted ones. New actors bring new ideas and perspectives and they meld with existing actors in an ever-evolving blending and mixing of expertise. Without porous boundaries, ecosystems can quickly become stale, unable to adapt, and begin to form hierarchies and centralization of power and ideas. This is the death knell of an ecosystem.

Finally, it can be a natural tendency to want to remain somewhat closed to prevent any bad actors entering the ecosystem for the wrong reasons. Resist this tendency. Strong ecosystems are able to effectively deal with the occasional bad actor. It is more dangerous to try to keep out bad actors than to simply let them in. For every bad actor it keeps at bay, it is likely that the network is losing ten times that many good actors who might contribute that breakthrough idea or connect those two people capable of fundamentally change the game.

An example from our Iowa educational ecosystem is a case in point. Periodically a “bad actor” jumps in and begins to play. It might be someone essentially planted to advocate for a particular group or faction or to push a policy. It might be someone who endlessly drones on about one point and doesn’t do much to extend their learning and engage to both teach and learn. This is good and healthy to the ecosystem because it helps members learn how to work with all types of people and manage all sorts of interactions. Ultimately, a strong ecosystem repels the bad actors on its own.

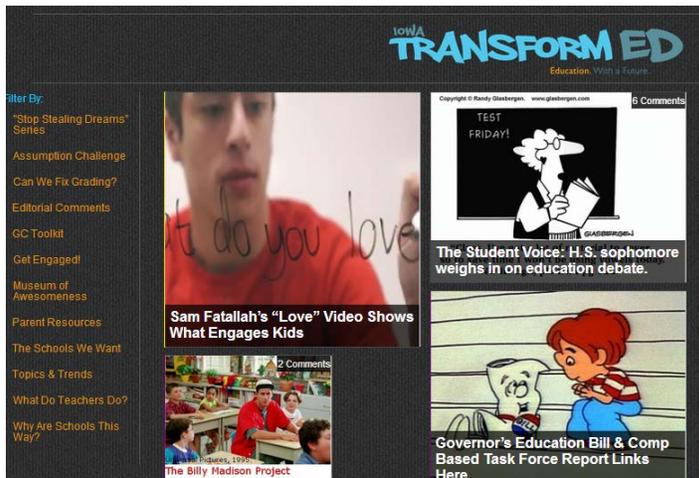
### **Ecosystem Activities, Events, and Examples**

The following are examples of some of the work of the people creating a transformative ecosystem in our region. They are not meant to be prescriptive and, as stand-alones, may not seem all that impressive. However, taken as a set, they can produce powerful effects for the ecosystem.

It is also important to note we haven’t been at this very long - at least not in any planned or purposeful way - so you’ll see some of our work has developed “legs” and others haven’t. I share them regardless because I do not pretend to know or understand your context and what works for us may not for you and vice-versa. Also remember we are in the “fail fast” stage of development and are constantly testing out new ideas. The beautiful thing about this approach is even the things appearing to be miserable failures provided an incredible amount of learning making subsequent efforts more fruitful.

### **Iowa TransformED**

Having a website as a “catch-all” or “go-to” place for an entire educational ecosystem seems like an amazing idea, yet in practice it typically falls short. There’s simply too much noise on the internet, too many varied interests, too many people blogging, tweeting, and commenting to believe one site could service an entire ecosystem. Despite these obstacles a Cedar Rapids based company, The Gazette Companies/IowaSource Media Group, decided to start a website called [www.iowatransformed.com](http://www.iowatransformed.com) (see image, below) as a way to begin to elevate the education conversation in the region. As a media company they knew they had to play a different role in the community; they had to redefine themselves and how they interacted and communicated with their community.



The idea behind IowaTransformED is to shine bright lights on great things happening. Presently, it is being transformed to be a “gateway” into the ecosystem by being the place linking people, events and stories wherever they may reside. We are beginning to understand the importance of having a private entity hosting and providing such a resource. While many formal organizations in the state also try to do similar things, they

always must be aware of the political ramifications of what appears on their site. This barrier is largely removed via IowaTransformED since it is not beholden to any formal group or association.

### The Eastern Iowa Compact

The Eastern Iowa Compact was the brainchild of the folks at the Grant Wood Area Education Agency. Grant Wood provides educational services to 32 school districts in 7 counties in Iowa’s Creative Corridor. They had been meeting for several years with the area superintendents learning and talking about educational change. In true feeder fashion, they listened carefully to the superintendents and in doing so heard a familiar, if not vocalized, chord. In short, it seemed as if every superintendent who stepped up and pushed for real change in schools didn’t last long. The community or Board grew uncomfortable in the space between status quo and lasting innovation. Bending to increasing pressure, the only real change was usually in who sat in the superintendent’s seat.

Over time, this perception became part of the “reality” and was a major obstruction in getting things done. The lesson had been learned - don’t get out too far from the herd or you’ll get picked off. Grant Wood, along with a core group of superintendents, wanted to eliminate that perception and assist themselves and their colleagues in moving confidently forward. In short, they needed to build community support and the necessary “cover” to move forward.

The Eastern Iowa Compact ([www.commitandact4kids.org](http://www.commitandact4kids.org)) was modeled after a similar education compact emanating out of Los Angeles, California. The notion: craft a simple but compelling vision for the future of education and then work to get parents, teachers, business leaders, students and community members to publicly pledge their support. The portal would then be a place to share with the community the “bright lights” showing the way. If any particular school were to begin to get backlash from an initiative fitting the

vision, that school would have a group of people ready to step forward in support in order to keep things moving forward.

To date the site has acquired over 400 signatures from across the Creative Corridor. This effort has done much to raise awareness about educational transformation and provide ecosystem leaders with a better sense of who is paying attention and may want to “play” in the ecosystem in the future.

### **Student Voice Video Contest**

Modeled after the work of an ESA in Michigan, we created a student voice video contest. High school students were asked to create 3 minute videos showing their vision for what they wanted school and education to be like. Several corporate sponsors signed on and 3 area high school students stepped up to serve as organizers. They produced a website and fun videos introducing the contest and organized a formal awards ceremony. You can see the winning videos here: <http://iowatransformed.com/2012/12/10/student-voice-awards/>

Over 30 entries were submitted and a panel of community members selected the winners across a variety of categories. 200 people attended an awards ceremony modeled after the Oscar’s and winners were announced and put in the local newspaper. The winning video has been used countless times across our ecosystem with communities, parents, and teachers.

### **Co-Creator Camps, IowaEdCamp, and Tweet-Ups**

Our ecosystem has come alive with engaging activities for all people interested in educational transformation. A “co-creator” camp was attended by 300 people on a Saturday which included local legislators talking about educational transformation and a wide cross-section of Iowans who spent the day crafting a common vision for education. This event provided connections and new relationships and gave educators ideas and the confidence to go back and keep pushing their transformative practices.

Along with Prairie Lakes AEA in northwest Iowa and Bettendorf CSD, three ecosystem leaders put together a statewide IowaEdCamp in February, 2013. Hosted in both a western and eastern location, it drew 400 people. Like entrepreneurial “barcamps” the IowaEdCamp followed the standard format for such events. In short, participants convened in a large room and began to pitch 50 minute sessions. These sessions were then plugged into a schedule for the day. The sessions were facilitated by the people who proposed them and provided opportunities for people to come together to engage around a particular topic or idea. The energy and innovation of the day was impressive and participants made new connections and relationships as well as ideas.

### **Tweet-Ups**

Another example of an emerging ecosystem is #iaedchat. Three educators declared a weekly EdChat on Twitter. Each Sunday evening from 8 to 9 pm, any educator wishing to

join in a Twitter conversation can follow the hashtag. The leaders pose a topic by Wednesday of each week and conversations are put on a Storify site. ([http://storify.com/Aaron\\_Becker32/#stories](http://storify.com/Aaron_Becker32/#stories)) Over 200 people on average “attend” these tweet-ups weekly.

### **The “Back-to-School” Project**

Originally called “The Billy Madison Project” until permission to use was denied by the movie’s owner, this project is designed to engage the community in the education debate through a novel but effective approach. We invited eight community and business leaders to return to school as students - not as guests or visitors - for ½ a day and then come together for another ½ day to debrief their experience and put forth the schools they would design if they could start with a blank sheet of paper. Five area high schools signed on to provide a wide experience from very traditional classrooms to more innovative ones. (<http://iowatransformed.com/wp/category/the-back-to-school-project/>)

The response was overwhelming and is beginning to change the tenor of the conversation in our community. Community members walk away from the experience transformed. By taking the time to engage in this activity, they get a fresh perspective of what school is like for students and can speak more authoritatively about the changes needed. We have conducted four “classes” thus far with a waiting list of over 30 wanting to participate.

The debrief sessions consist of three elements: 1) participants create a list of the competencies a successful adult must possess; 2) they then share their experience as students, and; 3) taking their list and experience they answer the question “given a blank sheet of paper, how would you design the school experience to ensure students learned those things you find critical to success?” This is a great example of asking people who want to play to take action and engage in a deeper and more meaningful narrative.

### **The Bacon Wrapped Lesson Workshop**

As members of an ecosystem, it becomes easier and easier to respond to emerging needs. One such response was the formation of “The Bacon Wrapped Lesson Workshop.” A consistent theme of student boredom, disengagement, and lack of a voice coupled with teacher frustration with not being able to sit with other teachers to design engaging and relevant lessons led to this workshop.

The workshop, now expanding across Iowa and the nation, brings teachers and students together to build and “cure” engaging lessons. Taking their most boring and/or difficult lessons and standards, teachers work to develop them into highly engaging lessons. Teams of teachers then take their lessons to a “Student Shark Tank” comprised of high school students for feedback. Results to-date has been phenomenal and the workshops now bring the students in on the second day to sit with teachers to co-create lessons that are relevant to and engaging for students.

### **The Standards Based Grading Workshop**

Developed by local school district and supported by the local education service agency in response to a growing interest in standards-based grading, this day-long workshop brings teachers and administrators together to learn and share their work around this transformation. As a leader in this work, this school district recognized the interest and offered to share their experiences and provide learning and networking opportunities. They had space for 200 and filled the workshop in 3 days.

### **Conclusion**

Socio-cultural systems thinking is absolutely critical if we are to transform our education systems but our prior approaches and work have been less than effective. Through the development of ecosystems and re-building community efficacy, we can begin to bring about the future we so desperately need. While we stand ready with the technical skills and abilities to help communities redesign their schools, we cannot do it until our communities can see a better future and examples of it. By connecting the emerging field of community building and ecosystem development with the principles of systems thinking, we can first create a parallel universe dealing effectively with wicked problems and slowly make it the more dominant picture for education and the design of truly student-centered schools.

### References

- Ackoff, R. L. (2004). ICSTM Keynote with Russell Ackoff. Available at [http://www.systemswiki.org/index.php?title=ICSTM 2004 Keynote with Russell Ackoff](http://www.systemswiki.org/index.php?title=ICSTM_2004_Keynote_with_Russell_Ackoff)
- Ackoff, R. L. (2008). *Turning learning right side up*. Upper Saddle River, New Jersey: Wharton School Publishing.
- Barnard, P. (2013). Wicked problems: Schools and systemic change. *The F.M. Duffy Reports*, 18(1), 1-23.
- Block, P. (2008). Community. *The structure of belonging*. San Francisco: Berrett-Koehler Publishers.
- Block, P. (2013, April 4). Connecting communities. (T. Pickering, Interviewer)
- Conklin, J. (2010). Wicked problems. Retrieved December 14, 2012, from Cognexus Institute: <http://cognexus.org/wp/wickedproblems.pdf>
- Duffy, F. (2008). Strapping wings on a caterpillar and calling it a butterfly: When systemic change is not systemic. *Connexions*, Available at <http://cnx.org/content/m16542/latest/>.
- Duffy, F. M. (2011, July). A personal vision for transforming America's education system and 20 laws of transformation to guide the process. *The F. M. Duffy Reports*, 16(3), 1-12. Available at <http://thefmduffygroup.com/publications/reports.html>.
- Feld, B. (2012). *Startup communities: Building an entrepreneurial ecosystem in your city*. Hoboken, NJ: John Wiley & Sons.
- Feld, B. (2013, January 28). Applying the Boulder Thesis to education. (T. D. Pickering, Interviewer)
- Gharajedaghi, J. (2006, May). Systems thinking in education workshop. (T. Pickering, Interviewer)
- Gharajedaghi, J. (2011). *Systems thinking: Managing chaos and complexity* (3<sup>rd</sup> ed.). Boston: Morgan Kaufmann.
- International Conference on Systems Thinking and Management. (2004, May). ICSTM 2004 Keynote with Russell Ackoff. Retrieved February 2011 at [http://www.systemswiki.org/index.php?title=ICSTM 2004 Keynote with Russell Ackoff](http://www.systemswiki.org/index.php?title=ICSTM_2004_Keynote_with_Russell_Ackoff)

Rittel, H. W. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4, 155-169. Amsterdam: Elsevier Scientific Publishing Company, Inc.

The Gazette Companies, Cedar Rapids, Iowa. (2013). The Back-to-School Project. Retrieved from Iowa TransformED: <http://iowatransformed.com/wp/category/the-back-to-school-project/>.

WorldBlu. (2013). Democratic design. Retrieved 2013, from WorldBlu: <http://www.worldblu.com/democratic-design/>.

### About the Author



Trace is a former school and intermediate service unit administrator and currently serves as Director of Community Building for The Gazette Companies in Cedar Rapids, Iowa. He also developed and teaches Systems Thinking & Design Methodology at Mount Mercy University. Trace is a sought after consultant and presenter on socio-cultural systems thinking, school transformation, and community building. Recently, Trace has been exploring the entrepreneurial community to understand how they create change. He is currently interpreting Brad Feld's book, *Startup communities: building and entrepreneurial ecosystem in your community* as it applies to the world of educational

change. Trace believes the networked, grass-roots sort of leadership discussed in Feld's book are highly congruent with and complimentary to systems thinking and best situated to address wicked problems like the ones we know exist in our school systems. Trace can be reached at [tdpickering@hotmail.com](mailto:tdpickering@hotmail.com) and via his website [www.tracepickering.com](http://www.tracepickering.com).

## Appendix

### Developing Iowa's Educational Ecosystem to Advance Transformative Education for Iowa's Children

#### **PURPOSE:**

To develop a vibrant ecosystem of lowans passionate, committed, and actively engaged in living into the possibilities of an educational system worthy of our children.

#### **OUR VISION:**

We envision an education system where:

- learners and educators co-design learning experiences that engage passion and interest
- learners develop conceptual understanding and transferrable skills through exploration and customization that happens anytime and anywhere
- children are hopeful about their future and their ability to participate in it
- children develop the capacity to create and re-create a positive and productive place in our world
- we measure what matters

#### **WHAT BEING A MEMBER OF THE ECOSYSTEM MEANS:**

Participation and membership in the ecosystem is completely voluntary. Individuals need only desire to be an active agent - in some capacity or another - for helping to bring into being a system of learning worthy of our children.

Membership means you are willing to:

- share your gifts openly and widely with all who seek them
- share your efforts, iterations, approximations, struggles and failures in order to advance the learning of the ecosystem, its members, and yourself
- step up to lead and support efforts, projects, conversations or tasks when it becomes clear that others wish to follow you or you have something you want to do
- cultivate other leaders who enhance, deepen, and advance the ecosystem
- remain open minded and willing to explore viewpoints other than your own and share your learning and development
- openly celebrate your successes and shine bright lights on your students, colleagues, community members and schools who are striving and acting to bring our vision into being.
- actively participate in the activities happening throughout the ecosystem

- invite others in your network “to the dance floor” and continually develop ecosystem participants and leaders
- choose when, where, if and how long you wish to be a member of this ecosystem
- openly share your vision for the education of our children and connect it to the larger vision to enrich, enhance, and deepen it
- help us create and sustain meaningful relationships through respectful discourse, conversation, and share among educators, students, parents, businesses, citizens, and legislators
- add to the resources of the ecosystem

### ROLES WITHIN THE ECOSYSTEM:

To help engage new members immediately, we provide a set of potential roles you can play. The roles are highly integrated and overlap often. The name of the work you engage in is not important - that you can and will play one or more of the roles is! Take on a task and put your personal stamp and perspective on it!

- Agenda Activists/Moderators- *Take the lead on shaping our joint learning agenda*
  - Agenda activists help facilitate and outline the community’s learning agenda. They are responsible for capturing and driving it. They pay attention to emerging learning needs and opportunities: productive themes and questions, key insights and promising lines of thought, as well as requests and possible action steps.
  - How you can fulfill this role: *point out trends and topics you see emerging and connect with others to co-host or set up a Tweet-up on it; push forward interesting questions; post stories, blogs, and articles that push thinking in new directions; share the ideas you hear with the ecosystem; continually press the community to openly challenge assumptions. (“What does school look like if we deny the assumption that kids must be assigned to a specific attendance center?”)*
- Community Keepers/Connectors- *Take the lead in ensuring all voices are at the table*
  - Community keepers are custodians of the dynamics of the community and their effects on its learning capability. They think about the nature of the community being built, what brings it together, and what prevents its development. They pay particular attention to voices, levels of participation, and issues of power. They develop and ensure trust and positive relationships in the group.
  - How you can fulfill this role: *introducing people to one another; calling out “bad actors”; recruiting people to the ecosystem; making calls for greater diversity; finds ways to promote duplicative power (the more power you give away, the more you and everyone else gains)*
- Critical Friends- *Take the lead on noticing what’s working and what’s not*

- Critical friends pay attention to the process and capture feedback about what's working well and what's not. They monitor the level of engagement, the response to activities, and the general atmosphere. This is an important part of the self design of the community. Their role is not simply to give feedback, but to collect it from all participants, collate it, present it, and make sure it is somewhere that can be referred to over time.
- How you can fulfill this role: *share community trends and behaviors that affect the culture of the ecosystem - good or bad; call continual attention to the principles of abundance, gift-giving, and co-creation*
- Social Reporters/Storytellers- *Take the lead on creating a shared, internal memory*
  - Social reporters help their community generate a history of what happens from the different perspectives of the members. The genre of social reporting tends to be informal, visual and a representation of perspectives from different places and angles. The shared memory provides an entry point for newcomers and an evolving reference for old-timers.
  - How you can fulfill this role: *sharing and posting stories from the ecosystem; encouraging other to blog, video, and/or narrate their stories; find "the bright spots" and help shine a bright light on it*
- External Messengers/Writers/Bloggers/Cheerleaders- *Responsible for crafting a public narrative*
  - External messengers are responsible for identifying who the potentially interested parties are, what types of outputs or communication would be valuable for them, and how best to present the community's messages. They pay attention to insights, statements, or documents that could be shared more widely. And they craft products for these external audiences.
  - How you can fulfill this role: *work closely with storytellers to build and share stories, events, and personalities; pose a provocative blog; start a Tweet-up or chat; tell the story of the ecosystem*
- Outreach Specialists/Brokers- *Take the lead on negotiating the interface with organizational stakeholders*
  - Organizational brokers help guide the interface between the community and organizational stakeholders. They are responsible for finding ways to highlight and connect the community's agenda, activities, and outputs with organizational strategies—and how the work of the community can feed back into strategy. They pay attention to references to strategic capabilities, resources needed, support desired, infrastructure, formal structures, expectations, recognition and certification, and channels of communication with the formal organizations feeding the educational ecosystem. They seek ways to engage stakeholders and clarify and

- promote the relationship between the ecosystem and the relevant organizations.
  - How you can fulfill this role: *provide ideas and suggestions for interfacing with legislative/government bodies; provide suggestions for how to help the ecosystem's feeder organizations connect, communicate, and support the ecosystem; call out organizations attempting to misuse the ecosystem for their own gain or benefit.*
  - *Note: organizational brokers are responsible for finding ways in which the community/ecosystem work relates to the strategic plans and organizational structures within the current systems we represent. E.g.- how does the work of the Iowa Ecosystem movement support and relates to a given district or other relevant organizations (see also System Conveners)*
- Value Detectives- *Take the lead on making the value created by the community visible*
  - Value detectives attempt to make the great things emerging from the ecosystem visible, through an appropriate mix of stories, assessments, and measurements. They apply the methods and ideas outlined in the community to suggest key indicators, highlight relevant stories, and develop data-collection plans and recommendations. They assess who needs to know what and assists the ecosystem in serving the needs of various constituencies.
  - How you can fulfill this role: *identify and share how schools are utilizing indicators matching the emerging goals and work of the ecosystem; highlight relevant data; find ways to help the ecosystem easily share the data they are collecting*
- Systems Conveners- *Finds ways to have meaningful encounters across boundaries*
  - Convening learning processes and spaces across complex social learning systems/organizations with difficult or complex boundaries.
  - How you can fulfill this role: *help recommend and organize workshops, retreats, conferences, and meet-ups; find ways to bring diverse ecosystem members together; highlight events and happenings across the ecosystem that promote connection and sharing*
  - *Note: system conveners are responsible for finding ways in which the community/ecosystem work interfaces and has meaning across boundaries- e.g. relates and has relevance to organizations and systems outside of the boundaries of education*
- Researchers/Curators- *Manages and seeks resources and information pertinent to the focus and needs of the ecosystem/community*
  - Researchers/curators are on the constant look out for relevant and emerging research and help share it and make sense of it. They identify

- stories and share them across the ecosystem. They help connect researchers to folks in the ecosystem looking to conduct research.
- How you can fulfill this role: *Tweet research links and findings; challenge/expose faulty or incomplete research; help the ecosystem be better consumers of research; curate and organize stories and information for the ecosystem*
  - Provocateurs- *Deliberately behaves controversially in order to provoke discourse and elicit strong beliefs and passions*
    - How you can fulfill this role: *play contrarian in a discussion; pose a challenging question; play devil's advocate to help members dig deep; challenge assumptions.*
  - Mentors- *Informally transmits the knowledge, [social capital](#), and psychosocial support needed to fully engage new members or learners*
    - How you can fulfill this role: *respond to others seeking support, assistance, or advice; encourage members to become more active; coach members*
  - Technology Stewards- *Aids individuals or groups with adopting or supporting some aspect of technology use in a specific context.*
    - [Technology Stewards](#) are a specific kind of techne-mentor, working on behalf of a community, mentoring and being mentored in the context of the community. A technology steward is influenced by their social context. The job of technology stewards is partly to make technology disappear. The more intuitive and habitual a community's technology infrastructure becomes, the more authentic and direct the experience of being in the community.
    - How you can fulfill this role: *find and share technology tools and applications and its appropriate educational use; promote technology for learning practices and shine lights on people doing awesome things with it; mentor members of the ecosystem*

The above was excerpted/modified from: <http://wenger-trayner.com/map-of-resources/>

Thank you for your interest in these Reports.

*Francis M. Duffy*



Please feel free to share copies of these Reports with your colleagues. All that I ask is that the information you find in these Reports be attributed to the author(s). For references to this article, please use the following: Pickering, T. (2013, April). Educational ecosystems & community building: Conversations and practices for the transformation of learning. *The F. M. Duffy Reports*, 18(2), 1-31.

These reports often contain articles written by readers. If you would like to write an article for these reports on a topic related to whole-system change in school districts, please send a copy of it to me as an E-mail attachment to [duffy@thefmduffygroup.com](mailto:duffy@thefmduffygroup.com).

The Rowman & Littlefield Education *Leading Systemic School Improvement Series* is a collection of books about “why” systemic change in school districts is needed, “what” some of the desirable outcomes of systemic change should be, and “how” to create and sustain systemic change. You can visit the website for the series by going to <https://rowman.com/Action/SERIES/RLE/LSI>

The *FutureMinds: Transforming American School Systems* initiative seeks to create a shift in the teaching-learning paradigm in school systems. You may visit the FutureMinds website by going to [www.futureminds.us](http://www.futureminds.us)