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Implementing Organic Education:
An Interview with Hugh Osborn
by James L. Morrison and Hugh Osborn

Hugh Osborn is a principal in 21st Century Solutions, a nonprofit organization based in Raleigh, NC and Pelham, NY. He is an Internet consultant who began his career in 1978 as an educational technologist at the World Institute for Computer Assisted Teaching (WICAT). I attended his presentation at the 2005 World Future Society conference in Chicago and was impressed with his analysis of problems in the current educational system, his concept of "organic education" as a solution to these problems, and his approach to using information technology (IT) tools in organic education.

James L. Morrison [JM]: Hugh, you began your presentation with a concept of "system incompatibility" in the current educational system. What did you mean by this?

Hugh Osborn [HO]: For the early part of my career, I was enthralled with the capability of information technology as a platform for innovative educational techniques. However, it became clear relatively early on that lasting innovation was not a part of the public schools' agenda, and thus the dreams of my generation of educational innovators would not come to much. The reasons for this are complex, but the root cause is an incompatibility between the way our educational system is organized and innovation itself. Burns and Stalker in 1961 analyzed organizations that responded poorly to change and described their functioning as "mechanistic"-—set up like machines—with all the imputed value at the top. The Soviet Union's planned economy was mechanistic: top-down, command-and-control, and fatally non-innovative. Our school system is highly mechanistic, with top-down decisions (like textbook content), no merit pay, rote learning, unions instead of professional guilds, and other artifacts of the Factory Age. Thus it is largely incompatible with the many innovations necessary to bring education into the 21st-century and, in our opinion, with the most effective kind of human learning.

Innovative organizations and systems share a different, organic structure, like an organism made up of collaborative (and competitive) parts. Comparatively, we can describe their organization as bottom-up and more horizontal, or "flat" in the terms Thomas Friedman (2005) uses in his latest book. America is history's great organic experiment—our capitalist economy is organic as is democracy. Organic systems are empower-and-connect systems in that if you empower people with responsibility and tools and connect them in collaborative structures, the result can be an extraordinary release of imagination and initiative. This is innovation.

It is also an extraordinary opportunity. I contend that organic systems are applicable to education and powerful enough that the right small group of people could spark a transformation in American education for the cost of developing a few textbooks. That is the potential impact of organic education (see Exhibit 1 for the key hypotheses of organic education).

JM: What is organic education?

HO: Organic education is a term that my partner at 21st Century Solutions, Margaret Gayle, and I use to denote a form of education based on 21st-century organic principles. We define the three organization levels of our education system: (1) the student-teacher interface in the classroom, (2) the district level where local budget and policy decisions are made, and (3) the state/national level where politicians define diktats that lead to red tape. Organic education is a bottom-up scenario in which organic forces replace existing mechanistic approaches at all three levels. Because of the power of organic systems, doing this does not

require an act of God or Congress, but just solving the one big problem and two smaller problems that I will outline as our discussion progresses.

Organic education places virtually all the major problems and issues in our schools in a completely new light, one that will be of real use to those policymakers and educators who take the time to understand it. But most importantly, it acts as an instrument to *force* transformation of the American education system and is not simply another monograph that *advocates* change. The scenario uses an extremely powerful organic device to make the status quo become a non-option. Thus it is not just another pie-in-the-sky look at a rosy, technology-enhanced future. We will see this as we build a forcing function that can make the transformation nearly inevitable.

JM: Your strategy for implementing organic education impressed me. Could you summarize it here?

HO: The strategy targets how to apply organic principles at the three organizational levels: classroom, district, and national.

The biggest problem involves applying organic principles to the classroom and unleashing imagination and initiative in both teachers and students while maintaining high academic standards as measured by today's standardized tests. Accomplishing these objectives in a scalable way in current schools is no mean feat. This solution must resolve the 100-year chasm between traditionalist academic achievement, as measured by mechanistic tests, and progressive educational principles focusing on student engagement. We can see the history of American education as the unsuccessful resolution of this dichotomy.

Luckily, Margaret's work presents a possible path to this problem's solution. In her role as executive director of The American Association for Gifted Children (AAGC), Margaret worked with the North Carolina Department of Public Instruction (NCDPI) to reinvent teaching based on organic principles in a project called Bright IDEA—a project that has been recently extended and funded by the U.S. Department of Education (see Exhibit 2 for an explanation of Bright IDEA's organic teaching model). The original project trained 30 teachers in North Carolina K-2 Title I classrooms in 2001–2004 and yielded spectacular results. When measured on nationally normed tests, the Bright IDEA kids, who had had no test prep, had nearly double the scores of the other kids. Furthermore, the project taught and measured 21st-century skills like creative problem-solving, empathetic listening, persisting, and thinking flexibly (NCDPI and AAGC 2005).

I interviewed the participating educators in one of the five schools. The deep level of student engagement reported by the teachers impressed me the most. Every child was an enthusiastic learner, so much so that truancy and attention problems diminished significantly. Student turnover (children leaving during the school year) dropped from 50% to 0% in several classes. This means that parents made important family decisions based on having one child in Bright IDEA, even if they had several children in other classes. These results all indicate deep student and parent involvement.

The project's methods follow the small, organic group model that has been so successful in corporations, team gaming, and the military and is seen in its natural form in children's imaginative play groups. We believe that human beings are wired to learn in this way: motivated in groups but often learning and working individually, intertwining productive work (not worksheets) with learning and play. In these groups, peers help each other, and when group motivation is high, productivity is very strong, and learning can be accelerated.

Though these children were young, we believe the techniques used here are fully scalable from the preschool level through retirement. The designers' backgrounds include teaching at the upper elementary, middle school, and high school levels where they have used similar techniques and gotten similar results. Thus based on the designers' record of success in the past and their use of a powerful, universal model, scalability to other grades is a highly credible claim, especially because their methods tie so directly into the small, organic group model so effective in other contexts.

Though it requires more work, we have an existence proof for a solution to the first and biggest problem—how to apply organic principles to the classroom. Effectively applied, this solution results in a combination of characteristics that we believe is rare or unique in education. These qualities also set the minimum criteria for transformative classroom methods:

- radically improved academic results (50-100% improvement in underrepresented populations)
- extremely high student enthusiasm for learning
- innovative thinking both taught and measured
- high teacher job satisfaction
- typical public school teacher profile
- both typical and at-risk student populations with:
  - regular class size
  - no test prep
  - no tutoring
  - no extra hours or days
  - no special selection of students.

This solution is a vital and difficult-to-achieve foundation for the forcing function we are building. But, again, we believe we have an existence proof for it in Bright IDEA.

JM: How do you see IT tools enhancing organic education at the district level?

HO: IT tools lay the foundation for the solution to the second problem: applying organic magic—or dynamite—at the district level. The two main challenges to overcome at this level are (1) that the mechanistic "gray" culture in most districts does not promote imagination or initiative and (2) that whatever solutions we find to address the first issue must then be scaled up to a national level. IT tools help solve both problems.

Teachers have been largely unable to innovate, especially with IT tools. The organic approach entails creating or building, and indeed, most IT tools enhance collaboration and/or creation; however, these organic processes do not work well in the traditional, mechanistic classroom. In fact, most educators use IT in classrooms in a drill-and-kill mechanistic way. Many publishers create an innovative product following creative, constructivist principles only to find the product bounces off the impermeable innovation barrier in classrooms. And many a superintendent triumphantly claims his IT-laden district sits squarely in the innovative 21st-century world without realizing that the using the technology for 19th-century drilling is anything but innovative.

However, the Bright IDEA teachers showed a fundamental, catalytic change. They learned how to add innovative techniques to their repertoire and translate from them to today's currency of the realm—high test scores. This is the Rosetta Stone that I have been seeking for 25 years. Bright IDEA teachers innovated so their students could perform well against current 19th-century criteria in addition to the far more complicated demands of the 21st-century. The ability to operate in both worlds is what makes organic teachers Rosetta Stones that can break the impermeable barrier keeping innovation out of the classroom.

I think Kurt Squire said it well in his recent *Innovate* article: "The real challenge is not so much in bringing games—or any technology—into our schools but rather changing the cultures of our schools to be organized around learning instead of the current form of social control" (2005, "Conclusion," ¶ 1). The Bright IDEA teachers underwent just such a culture change in their training—the essential vertical to horizontal or mechanistic to organic shift.

Once that shift occurs, we can use the organic toolbox (see Exhibit 4). These mainly IT tools are highly organic—they empower and connect people—and relevant to education but are not used effectively in schools because of the innovation barrier. Thus a 25-year logjam can be broken up using Bright IDEA's

Rosetta Stone. The transformation of the classroom engendered by this translation allows us to repurpose these incredibly powerful tools both to amplify the effectiveness of organic approaches and to scale this form of learning to millions of students.

So what can we build with this toolbox to amplify and scale organic techniques? Projecting forward from the success of Bright IDEA, we see the development—in fact the necessity—of a new kind of publisher, an organic publisher. These publishers will create organic learning environments (OLEs) that will be game publishers with equal amounts of teachers' colleges, educational publishers, complex virtual communities, personalized data management environments, and open source communities.

As outlined above, we have worked out relatively detailed descriptions of what we believe OLEs will look like. However, they will be developed organically in close consultation with the kinds of innovative teachers that I interviewed in Bright IDEA. Though we are not fully sure whether the dozen or so primary characteristics we have defined will be as prominent as we think, that will be the challenge and fun in developing this kind of new entity.

Let me emphasize that the first primitive OLE is just a step away from Bright IDEA and that the technology necessary to build sophisticated versions already exists. The shift in mindset that we have already seen in the Bright IDEA teachers from vertical to horizontal thinking acts as the catalyst that makes OLEs possible. As this shift is scaled up to tens of thousands of teachers, OLEs will not only be possible, but necessary.

The rapid innovation pathway that OLEs represent is the second vital ingredient in the forcing function that we must build to secure our country's future through educational transformation.

JM: You have presented a comprehensive view of OLEs and the toolkit necessary to support their development, and the possibilities are certainly exciting. Can you summarize the key changes OLEs bring at the three levels of the educational system and tie them into the forcing function?

OLEs change the classroom by supporting the conversion of teachers from one-dimensional, mechanistic approaches to multi-dimensional organic methods. This renovation occurs with training, mentoring, game-like tools, and many other resources.

At the district level, OLEs will provide a vibrant, organic culture that can overlay the gray culture of the district, changing it relatively rapidly. This culture will be the most important tool for the classroom teacher as well as for the administrator. The learning community will host extraordinary activities and resources, multi-player games, links with location-based entities like museums in addition to the training and mentoring mentioned above. But, again, it is the powerful, vibrant, learning community culture that will make OLEs transformational agents. And, because of their technology base, they will be able to scale rapidly once they reach a certain level of development.

In order to maintain standards, OLEs will have to develop learning experiences against an advanced and objective set of 21st-century learning criteria supported by leaders in educational thought, including the name-brand universities. These criteria must explicitly include engagement and innovation to prevent a slide back into mechanistic methods.

OLEs will only succeed if they are competitive, innovative environments like today's game publishers. So, just as the small group approach was the organic model at the first level, the competitive Silicon Valley company developing a vibrant, innovative community will be the organic model at the second level. Both are very powerful, organic phenomena, one at the interpersonal level and one at the community level, that together provide the explosive creative and growth potential of the OLE.

The organic education scenario's true power becomes clear at the third level where the implications for its policy comes into play, and of course, where we finally get to see the full forcing function.

At the policy level, the concept of a system incompatibility explains many conundrums in education. Why is Attention Deficit Disorder (ADD) so rampant? How do we reduce dropouts? Should we extend the school day? Why hasn't technology led to innovation in American schools? Why do so many commission reports come to nothing? Will money solve the problem? All these questions and many more are answered at a deep level when one shifts from a 19th-century to a 21st-century perspective (see Exhibit 5 for a discussion of these questions). Many seemingly intractable educational problems are simply artifacts of using an inappropriate model. This realization should change the approaches of the many think tanks spending tens of millions of dollars studying and re-studying the same problems but unable to make any progress with real solutions.

Now we are ready to put it all together and see the forcing function: the killer application (or killer app) snowball, one of the most powerful phenomena in human history. The snowball scenario requires a powerful paradigm at the knee of the effectiveness curve and, of course, a high degree of pain, which, in this case, is the wide perception that America's education system is woefully underperforming. Exhibit 3 explains how the snowballing process works with OLEs and is vital to understanding how to force transformation.

The snowball effect will be a positive *pull* forcing, not an authoritarian *push*. OLEs will present a new-paradigm alternative that results in (1) far higher educational performance, (2) deeply engaged and innovative students ready to thrive in the 21st-century, and (3) high job satisfaction for teachers. Communities will find this triple value proposition nearly impossible to resist as it grows progressively stronger with the snowball, especially given parental and business pressure for effective 21st-century education.

If the early snowball is well-tended and the full dynamics of the killer app phenomenon come into play, this transformation will eventually break through the innovation-resistant brick wall to even the grayest, most change-resistant school system. Although this might seem distant, the model exists; the seeds of this change are clearly evident when you talk to the Bright IDEA teachers, principals, and parents who are from school systems characteristic of mainstream and underrepresented American communities.

Let's roughly add up all the funds that might be judiciously spent by a relatively small group of thought and action leaders, entrepreneurs, educational visionaries, investors, and philanthropists to start the snowball. This sum includes all the funds for initial research, idea dissemination, X-prize-style rewards, initial investment funds, and oversight. It is the cost of starting a trend that will then appropriate billions of dollars from existing budgets and prompt the spending of billions more as American communities see truly effective education for the first time. The total is probably around $100 million, the cost of developing two K-8 basal reading programs. The sum is only 4% of what just *one* foundation has spent on education in the last ten years. And it is a tiny sliver of the boost to the economy if the effort is successful. This amount is 1% of the annual cost savings of improved educational attainment among recipients of government assistance (Levin and Holmes 2005), i.e., the Bright IDEA population. Even if this number is off by a factor of five, we would be making a mistake of historic proportions not to immediately embark on this path—the move to organic educational methods is clearly a national imperative. Also, as Exhibit 6 points out, a vast economic and business opportunity awaits us with the implementation of an organic and innovative education system.

This initial investment is only to *start* the organic education snowball. Once the movement is underway, existing budgets and billions of new dollars will be "pulled" voluntarily into the system. At this point, the transformation will have "tipped" and become unstoppable: even the grayest, most set-in-its-ways community will want to join the 21st-century, or else it will fade with the last vestiges of the 19th.

Organic education is *not* primarily about technology—it is about innovating in its broadest, most human sense. It looks at children, learning, teaching, schools, markets, societal investment, leadership, and all the other factors in our educational system in a way that shows a clear and coherent path out of the morass in which we find ourselves. Most importantly, organic education focuses on children and teachers as innovative human beings, not as numbers, which is the current trend in education. It shows how we can bring vibrant learning experiences to all our classrooms and is thus a vision that our country desperately needs to bring to

life. And it has, built in, the dynamics to force this vision into being if we can spread the word and get the right small group of people to pick up the challenge.

JM: Hugh, your vision for a bottom-up organic educational transformation is certainly provocative. We look forward to your full treatment of this topic in a book-length manuscript.

References

Burns, T., and G. M. Stalker. 1961. *The management of innovation*. Oxford: Oxford University Press.

Friedman, T. L. 2005. *The world is flat*. New York: Farrar, Strauss and Giroux.

Gee, J. 2003. *What video games have to teach us about learning and literacy*. New York: Palgrave MacMillan.

Levin, H., and N. Holmes. 2005. America's learning deficit. *The New York Times*, November 7.

North Carolina Department of Public Instruction and American Association for Gifted Children. 2005. *Project Bright IDEA 1: Interest development early abilities: A model K-2 nurturing program—2001-2004*. Final Report. http://aagc.org/FinalReport52705.pdf (accessed November 11, 2005).
Squire, K. 2005. Changing the game: What happens when video games enter the classroom? *Innovate* 1 (6). http://www.innovateonline.info/index.php?view=article&id=82 (accessed November 11, 2005).