



Brad Blue, founding member, Upper Mississippi Academy, and Jon Bacal, lead founder, Venture Academies

An Interview with The Civic Caucus

8301 Creekside Circle #920, Bloomington, MN 55437

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Notes of the Discussion

Present : Verne Johnson (chair), David Broden, Audrey Clay, Janis Clay, Paul Gilje (coordinator), Sallie Kemper, Ted Kolderie, Dan Loritz (vice-chair), Tim McDonald, Denny Morrow.

Summary of discussion - Brad Blue and Jon Bacal, education entrepreneurs leading efforts to start new, chartered schools, talk about their experiences midway through the process. They describe the strategies that different school models use to motivate students, achieve measurable student success and inspire lifelong learning for all students, no matter their personal challenges. Noting the similarities and differences in their approaches, they explain how they expect to accomplish better learning results than traditional public schools.

A. Introduction of interviewees -

Brad Blue is the Director of the Minnesota Guild of Public Charter Schools (a single-purpose authorizer of chartered schools, <http://www.guildschools.org>) and founding member of the Upper Mississippi Academy (www.umissacademy.org), a preK-12 chartered school campus scheduled to launch in 2013 on the Upper Post of historic Fort Snelling. Blue was Founder and Director of the GEMS (Girls in Engineering, Mathematics, and Science) and GISE (Guys in Science and Engineering) initiatives.

Blue is the recipient of the 2006 Tekne Award for Innovation in Teaching, which recognizes innovative classroom use of technology in K-12 STEM (Science, Technology, Engineering, and Math) education, an Apple Computer Distinguished Educator, recipient of the 1999 Presidential Award for Excellence in

Mathematics and Science Teaching and has National Board Professional Teaching Standards Certification. A graduate of Wheaton College, Dr. Blue received his PhD from the University of Aberdeen, King's College (Scotland).

Jon Bacal is lead founder of Venture Academies . He was the lead founder and start-up director of Hiawatha Leadership Academy in south Minneapolis and co-founder/co-start-up lead of Twin Cities Academy in St. Paul. He also served as the founding executive director of SchoolStart, a nonprofit that supported the launch of nearly 20 Minnesota charter schools, and most recently was the founding executive director of the Minneapolis Public Schools' Office of New Schools-the state's first approved school district authorizer under the 2009 authorizer legislation. Bacal previously served as education advisor for the City of St. Paul.

B. Discussion .

Both Blue and Bacal are leading teams in the establishment of new charter schools to be launched in fall 2013. They are in the middle stages of planning, each having obtained substantial startup funding and begun the process of building their staffs.

THE PROBLEM: Despite the innovations of new school models and the use of new technology, most schools today are not effectively designed to engage or motivate students.

Blue contends that the real problem facing education today is "the interminable boredom brought on by schools and their irrelevancy." The students at the top are being told "just stick with it, there's a light at the end of the tunnel, there's a payoff if you can just get through and graduate." The rest of students are either lost altogether, or otherwise operating vastly below their potential.

Bacal agreed with Blue's analysis, and emphasized that schools are not designed to help students believe that they have the potential to succeed. Schools today often label children erroneously from the start as having some impediment to success. There is evidence, Bacal asserted, that IQ may be quite malleable into the late teens, and even more evidence that schools can help all young people acquire the self-discipline and growth mindset linked to making dramatic learning gains. This includes students learning English, students with learning disabilities, and students from economically disadvantaged families.

"There are almost no urban secondary schools in the Twin Cities or nationally that enable most students from those three disadvantaged groups to learn at a consistently high level," Bacal said. He noted that over the past three years there has been an explosion in the capacity of learning technology, but almost no schools have yet been designed to take full advantage of this development. He believes that harnessing the potential of new digital learning content and tools will be a key factor in achieving high levels of learning among at-risk students.

THE GOAL: Create learning environments where students are engaged, motivated, and fully supported in reaching their highest learning potential.

Blue described the goal of schooling to be creating an environment in which learners are engaged in non-routine, interactive learning. Currently, that's often not the case; in most traditional schools and in many newer charter schools, routine cognitive tasks are the order of the day. "This is the exact

opposite of what's needed in a knowledge economy," he said, "to prepare students for the type of dynamic workplace they will encounter."

Students are familiar with the new non-linear, random character of the information age, but most schools still cast them in a different mold from 9am-3pm, a mold that puts them on a strict, narrow, and linear path with little opportunity for divergent thinking; there is no wandering allowed. His goal is to provide an effective alternative to that linear style of learning, Blue argued, one that will both mimic the nature of the information technology young people must master and better capture their imagination and interest.

Bacal added that the goal of society should be to enable children to learn and contribute at their full potential-which is usually beyond what most parents, teachers and students themselves think it is. Schools should help kids set their learning goals, take ownership of their learning, discover their own life passion and purpose, and develop a lifelong capacity for deeper learning.

"For learning to be maximized, it is critical that students help set their own goals and understand how learning will help to achieve those goals," Bacal said. However, some educational goals are not optional, such as advanced literacy skills, which are essential to becoming a fully contributing citizen. Consequently his school will seek to arm each student with a critical set of tools - including reading, writing, speaking, listening, reasoning - that all students will need to master, perhaps in different ways, in order to become successful self-directed learners.

THE STRATEGY: Create new kinds of schools from the ground up.

Upper Mississippi Academy: engage students with experiential learning pathways.

Blue described the design of Upper Mississippi Academy as premised on the belief that all students are creative and that divergence from, not convergence to, some defined norm is desirable. They do not want or expect that every student at the end of school to be the same person, have the same competencies, conform to the same pre-determined expectations.

"We want an environment that's conducive to play. We want to encourage a kind of life-long kindergarten, where students are given gifts to be creative. It's not only about using digital technology, but teaching them how to weld, to create XM stations on their iPod, to concoct cosmetics in the lab, to plant a garden and produce a nutritional lunch-active, vital and inherently stimulating projects. We propose enticing kids to learn with authentic experiential learning pathways that appeal to their natural curiosity; rather than taking away recess and 'play time', rather than anesthetizing them (especially precocious boys) with Ritalin, Adderall, and a host of other amphetamines, etc., and teaching to a standardized test. Rather, we propose to wake them up, encourage them to think laterally, make something."

Blue said the Upper Mississippi Academy curriculum and teaching strategies will foster divergent thinking with a low entry, early success strategy that allows for individualized instruction. For example, National Instruments LabVIEW for NXT robotics will be used. The software for this is icon-based. This means that regardless of reading ability, a student can launch the interface and begin programming and control the device. Because of that ESL/ELL students and struggling readers are on equal footing with all other students. The software is vertically integrated and affords slow to rapid development

depending on student interest, choice, and prowess. That's far more than the average attempt at 'differentiation'. The role of the teacher is to manage the broad direction and quickly trouble-shoot anomalies. This type of model requires a different approach to classroom management. "That threatens administrators in the conventional American system." Didactic instruction is easier to 'see' than this type of guided, active learning.

Keep male students in school; engage females in science.

Much of the education at Upper Mississippi Academy will be single-gender. Boys are the most "checked-out" or unengaged in school, Blue said. Looking at the trends in college admissions bears this out. In 1950, 70 percent of college and university students were male, but recently the Dean of Admissions at Yale asserted that if Yale ran admissions gender-blind, 70 percent would be female.

"On the other hand, girls, especially in the early 1900's, used to be prominently involved in the sciences, until it began being pitched almost exclusively to boys. It's all about engagement, and about the inherent capacity to learn."

A different role for teachers is envisioned.

The Upper Mississippi Academy project has secured a venue, on the historic upper bluff of Fort Snelling including the Clock Tower, Guardhouse, Barracks, and ancillary buildings. In planning the use of the buildings and as part of the effort to engage girls in science, Blue has arranged for a lab to be formatted by Pat Peterson, formulation chemist and VP of Research and Development at Aveda, for a project-based chemistry class called "Makeup Your Mind." To use chemistry to create a product (shaving gel, skin lotion, lip gloss, etc.) is tactical, Blue said, and leads to a tangible goal. These products motivate learning. There is an engineering component as well in the design of packaging and a mathematics angle in the schematics of the bar code and in developing the formulations. The product is by student design, much like the ideas generated in Ed Carryer's Smart Product Design lab at Stanford.

Brenda Langton, noted Twin Cities chef and restaurant owner, is a community expert and advisor of the school's orchards/gardens and culinary programs, which will be the focus of other project-based learning. Such topics as plant biology, sustainable farming, conservation principles, nutrition, and the chemistry of cooking are expected to flow from these endeavors. Robotics labs will introduce engineering concepts and an in-house, student-led "genius bar" will invite a range of technology-based problem solving. A school orchestra will benefit from a connection with MacPhail Music Center.

The educational model of the school is competency based. Learning progress is documented, tracked, and shared. To accomplish the learning model they intend to build the school up around the individual interest and strengths of the teachers, and focus on professional development and retention while planning for succession. The key is the teacher, Blue said. Teachers will be wholly responsible for the development and delivery of curriculum. They will take personal and collective ownership of their professional issues. The most important thing for our teachers to do is to nudge the students into the place of the learner every day and keep the learning well beyond the realm of the routine. And with a sandbox as large as the Upper Post, play is not optional and no class will have a fixed, assigned room number.

The school will function as a community campus.

Upper Mississippi Academy, at capacity, will be a preK-12 school. The school will have the feeling of a campus with the inherent benefit of a community site for learning spanning all age levels. The school will be a gathering place for the community and a magnet for under-served ethnicities. "In addition to having single-gender classes that will have an appeal to some immigrant groups, we will have a community garden with family plots.

"We'll also have a full time staff person that manages volunteers. In this decade in Minnesota more people will retire than the prior four decades combined. We expect to take full advantage of the experience, interests, and talents of volunteer retirees and others who have much to contribute to the campus."

Venture Academies: creating innovators and entrepreneurial leaders via personalized digital learning and passionate teacher coaching.

Venture Academies' mission is to inspire college- and career-ready, innovative and entrepreneurial leaders who imagine opportunities, take initiative and create solutions. Bacal said that Venture might be the nation's first school model focused on the challenge raised by Tom Friedman in 2010: "We need to get millions of American kids, not just the geniuses, excited about innovation and entrepreneurship again."

This June, Venture Academies was selected as one of 13 winning breakthrough school models in the national Next Generation Learning competition funded by the Bill and Melinda Gates and Hewlett foundations.

Bacal described the approach of Venture Academies as helping students discover their own passion and lifelong sense of mission. "This approach is important for two reasons. First, student self-motivation and self-expectations are the most important demonstrated factors to accelerate and deepen the learning of adolescents. Second, Minnesota and the nation urgently need many more innovators, entrepreneurs and leaders. It's time we designed schools to cultivate the learning, passion and sense of purpose required to become innovators, entrepreneurs and leaders."

"You see many affluent kids going to school, going to college, finishing college, and still wondering what their purpose is-and not coincidentally-struggling to find meaningful work," he said. "There is no reason why all students, including those deemed educationally fragile, cannot by age 15 or 16 come to understand more fully where their passions lay and gain the skills to pursue them." He said the Academy will work to provide an environment of "play, passion, perseverance and purpose" with a view toward developing students that excel as innovators, entrepreneurs and leaders.

Bacal noted that in designing Venture Academies, the team began by addressing the fact that most students entering Venture's first school in south Minneapolis will be significantly behind in their English language skills and in their learning generally. So the school's expectations, learning methods and curriculum must be sufficiently ambitious and motivational to assure that the school's overall goal is reached. "Our aim is to have all students by the age of 16 prepared for college-level learning. We believe without exception that all our students will be capable of college-level learning while still in high school."

This can happen in various ways, he said - by helping them take college-level courses online or via Minnesota's College in the Schools and Post Secondary Enrollment options.

"We don't have it all figured out yet, and we won't on day one," Bacal noted. The most important element of Venture's model is a commitment to continuous, rapid cycles of experiment, measure, fail, learn, iterate, and improve. "We aim to create a pervasive student and educator culture where everyone's mistakes are admitted and embraced as learning opportunities-where taking calculated risks and making mistakes is actually cool. That's how the world's most innovative organizations work-and that is very different from the way schools operate today.

Teachers integral to school design process.

"Along with the potential to tap into student passion, our greatest asset will be the strength of our teachers," Bacal said. "We believe that innovative, empowered and passionate teacher-leaders are required to create innovative, empowered and passionate student-leaders. Teachers won't be randomly selected widgets brought in a month before school opens to fill openings. The school will be designed, led and continually improved by teachers.

Blended learning, new software allows individualized curricula.

During the Venture school day, most students will spend most their time on individualized online learning or reading or writing. The rest of the time will involve small group teacher-guided learning, including seminar discussions and project-based learning. The program includes frequent student analytic writing and public speaking assignments-two key skills not well learned in most traditional schools. Students will also engage in STEM (science, technology, engineering/entrepreneurship, and math) work in an "Innovation Lab" setting, coached by real-world innovators and entrepreneurs.

"The exact learning mix will be different for each student, based on their individual student needs, progress and interests," Bacal said. "Recent advances in technology enable students and their teachers to track and adjust their personalized progress and goals weekly and even daily using digital dashboards, with continuous feedback, formative assessments and other input. Similarly, there is a rapid growth in adaptive digital learning content: software that adjusts learning assignments to challenge individual students at exactly the right level, minimizing student frustration or boredom. In any traditional classroom, some students are bored and some are struggling; most teachers agree that "differentiating" whole-class instruction to meet every student's needs is very hard. It is now increasingly unnecessary.

Running personalized schools for a fraction of conventional district schools.

How much money will it take to do these things? Bacal answered, "By the time we reach full enrollment capacity, Venture will be able to operate on \$7,000 per student, far less than current statewide per-student funding levels and a fraction of urban district per-student funding levels.

"The formula to make that work: pay expert master teachers much more but hire fewer of them per student, while maximizing the support of paraprofessional educators, trained volunteers, peer tutoring and student self-direction. It's not about the level of resources; it's about the design."

For example, Venture students will have major roles in providing tech support, peer counseling, monitoring student behavior and tutoring. Over time, students will be increasingly capable at these tasks, and benefit from shouldering increasingly significant responsibilities.

Innovative schools must be organized differently.

Over the past year, these two school design teams have been hard at work developing plans for the schools, and the work so far has been pro-bono.

"Minnesota began opening the system to school choice with Post-Secondary Enrollment Options and open enrollment," Blue observed, "but in 1991 with the advent of chartering, the opportunity for teachers to exercise choice became a reality. 'You now have a choice', chartering said to teachers. 'You can design the learning community around teaching. You are a Local Education Authority.'" District teachers still often don't understand they have the right to take up to a 5-year leave of absence to teach in a chartered school, he said.

The organizing legislation for charter schools requires all charters to be approved by an authorizer. Both schools plan to work with Innovative Quality Schools (IQS), which is what is termed a "Single Purpose Authorizer." A single purpose authorizer focuses solely on authorizing the establishment of charter schools and overseeing them on behalf of the state.

The two speakers have in common a determined optimism about the prospects for doing a better job of educating students. "A year ago at this time I was very skeptical of the benefit of technology in education. I'm what you might call a late adopter," Bacal said. "Then I had an opportunity to go see some schools that are doing what we're now talking about doing here." He described visiting a school in Los Angeles, in the state's most violent neighborhood, operating on \$6,500 per student, with a 48:1 teacher student ratio. "I've never seen students more engaged, and it is because of the way the school is organized around blended face-to-face/digital learning."

"On some level it's not strictly about the benefits of technology, but rather it's about helping students accelerate their learning in whatever way suits them best," Blue said.

C. Conclusion

A participant asked one of the attending guests, Denny Morrow, retired Brooklyn Park school superintendent and board chair of Venture Academies, how his former fellow superintendents would respond to a proposal for the school he is now helping launch.

"The first reaction would be 'show me,'" he replied. "'You're promising more than you'll be able to deliver.'" Most school boards would still say this is too risky, he continued. That's why the charter route is going to be the best path for tackling this level of innovation.

The biggest differences in education will be made now on factors unrelated to increases in funding, the speakers said. "Let's try putting creative teachers and students in charge, and give up the conventional images of what school *should* be."

The chair thanked Blue and Bacal for the informative visit.