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Group Efforts: children hooked on numbers games!

Back when I was in elementary school and junior high, the only kids who voluntarily spent Saturday mornings working math problems were the nerds – you remember, the dull but brainy kids with rumpled clothes, thick glasses, and a slightly glazed look, who eschewed all fun in favor of study. But times, I suspect, have changed. I've just witnessed about 200 kids, aged 10 to 15, sitting in one room – of their own free will – and attacking math problems with a gusto worthy of James Beard. They were normal kids, wearing Afros and shaggy hair, jeans, jerseys, and gym shoes, and complaining alternately about cube roots and English teachers ("She's short and she gives too much homework!"). They certainly weren't nerds, but for two straight hours this Saturday morning they sat riveted to their chairs, furiously creating equations and loving every minute of it.

The occasion of this momentous gathering was the monthly tournament of the Chicago Academic Games League. The league, made up of kids from all over the city who meet to compete in mathematically based games, is the brainchild of math and science teacher Sheila Sconiers of Ray School and of John Dalida, a University of Chicago graduate student in education who worked with Sconiers last year. Before coming to Chicago, Dalida taught junior high math in Michigan and worked closely with the Michigan League of Academic Games. He introduced Sconiers's math class to one of that league's activities, Equations, a prealgebra game that threatens to revolutionize the teaching of elementary mathematics. Basically, in Equations, one player sets a goal that is half of an equation. Then the goal setter and his two opponents try to develop a solution to complete the equation, using numbers and mathematical signs from a randomly selected pool of resources. Thus if the goal set for a particular round is 24, one acceptable solution would be (2 + 1) x 8 – as long as all the numbers and signs in that solution were available in the pool of resources – because (2 + 1) x 8 = 24. Sound simple so far? As the game progresses, though, the players have the opportunity to limit the pool of resources that can be used in creating the equation; they can require the use of some of the numbers and signs in the answer and forbid the use of others. So if in his solution a player needs a 2 and one of his opponents has forbidden the use of all 2s, he's got to come up with a different solution, perhaps (4 - 1) x 8, to equal 24. The game requires an understanding of mathematical processes and an ability to manipulate numbers. Moreover, its competitive edge excites the students and gives them a tangible reason to learn such skills as multiplication of fractions and division of roots. Sconiers's class progressed so rapidly with the game that within weeks of learning it they entered the Michigan Tournament and won several trophies. And one of Sconiers's students, Thomas Andrews, managed to capture first place in the National Academic Games League Olympics last April, after only a few months experience with the game.

Based on their past success, Sconiers and Dalida wrote an open letter to math teachers throughout the city this past fall, inviting them to learn about academic games and to form a league. The response was gratifying. As of now, teachers and students from 15 schools participate. Despite its obvious connections with the Chicago public school system, however, the league is actually a civilian project, organized under the auspices of the Schools Committee of the Hyde Park/Kenwood Community Conference. It receives no funding from the school board and all of the teachers who take part in the program do so voluntarily and without pay. According to Jahn Phillips, a math teacher at Jahn School on the north side who instructs her math club in Equations, most of these teachers got involved because the kids love the game and learn from it. Mary Alice Cavenaugh, a teacher from the Chalmers School on the west side, agrees. She's had students who were low achievers come to school as much as an hour early every day, demanding to be taught how to divide fractions so that they can improve their scores in the next tournament. Regularly, students arrive at school at 8 AM to engage in pretournament scrimmages, and many teach their families the game so that they can play at home. The kids say they like Equations because "it's not like book math or paper math." But it is, nonetheless, math, and they are, nonetheless, learning.

Recognizing a success when they see it, politicians have jumped on the bandwagon, publicly touting the program. State Senator Richard H. Newhouse turned up at the December tournament to make a speech and present awards, and Governor Thompson is one of its strongest champions. Despite public support, however, public funding that would compensate the teachers for their time and allow the program to expand is not forthcoming. Because Chicago's public school system is financially destitute, state money must be used to man the classrooms rather than support new programs; and because the school system is not desegregated, federal money is simply not available. Herein lies the ultimate irony. While the school board has spent millions of dollars on busing and the Access to Excellence program in an unsuccessful attempt to provide integrated education, the Chicago Academic Games League has provided integrated education for free. As Sconiers is quick to point out, "These kids are coming from all over the city – the far west, the near north, the far south – to play this game, and they're integrating themselves. Race isn't an issue to them. The issue is playing the game."

Considering the shaky status of public education in Chicago these days, it's probably a good thing that the Academic Games League depends upon the personal commitment of teachers, students, and parents rather than on public funds. According to Sconiers, who was honored last month by the PTA as one of the city's ten best teachers, the fate of the schools has little bearing on the games. "Even if they close the schools," she said, "we'll still do this."

– Barbara Shwom