



Teacher Tip of the Week

Playing Games in Classroom Helping Pupils Grasp Math

Few family rituals have as fixed a place in the American household, and in the popular imagination, as board games, those impromptu or regularly scheduled contests played by parents and children on kitchen tables and living room floors.

Now, a growing body of research is revealing the potential benefits of using board games in the classroom to strengthen the mathematics skills of children, particularly those from disadvantaged backgrounds.

A new study offers one of the most detailed explorations of that topic yet. Published by a pair of scholars, it concludes that exposing youngsters from low-income backgrounds to a simple board game that involves counting produced large and lasting gains in their understanding of numbers.

The researchers, Robert S. Siegler and Geetha B. Ramani, designed an activity resembling the popular board game Chutes and Ladders, in which they had 124 pupils count and move pieces along numbered squares. All the preschoolers tested were from families that participated in the federal Head Start program, which serves children from impoverished backgrounds.

Students played that board game four times, for 15 to 20 minutes per sitting, over a two-week period. At the end of the study, their knowledge of math in four different areas of number sense had increased greatly, the researchers found. The experiment has shown the same results among other young students they've tested.



Those results, and related research, offer an unconventional strategy for developing crucial math skills among young, disadvantaged students, including minority children, scholars say. As it now stands, those pupils' performance in math traditionally lags behind that of their better-off and white peers.

Many children from poor families have limited exposure to board games and simple math-related activities at home. Spending even a small amount of time on fun, basic board games could spark an early interest in math and produce an academic payoff later, some researchers say.

"Young people learn a great deal about the world through play, and games are one source of play," said Mr. Siegler, a professor of cognitive psychology at Carnegie Mellon University in Pittsburgh. And when it comes to learning math, he added, "the games that build understanding of numerical magnitudes are crucial."

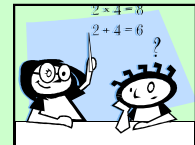
Researchers have been exploring the benefits of board games and other informal entries into math for decades. Students from relatively privileged backgrounds tend to be exposed to math at home not only through simple family games and activities, but also through parents' subtle use of math-related language, said Sharon A. Griffin, a professor of education at Clark University in Worcester, Mass., who has studied board games.

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Ideas to Share

LET YOUR STUDENTS TEACH A LESSON



Give your students the opportunity to teach a lesson. Choose a skill and have the students prepare a 10 minute lesson with questions, explanations, a worksheet, and a hands-on game. The children learn from each other.

Helpful Website for Teachers

<http://www.bowserlab.org/>



The icy tale of West Elementary's TINA KING and her first person accounts of experiences in Antarctica.

The New Teacher Support Program

Playing Games in Classroom Helping Pupils Grasp Math cont...

“The quantitative world is [presented] through language—bigger, smaller, taller, shorter,” Ms. Griffin said. “There’s explicit talk, using numbers, that doesn’t seem to happen in lower-income homes” as often, she said.

In the late 1980s, Ms. Griffin developed Number Worlds, a program that uses specially designed board and card games and other activities to promote math understanding among struggling pupils in early grades. Today, the program is sold commercially through SRA/McGraw-Hill.

She sees a growing focus among educators and researchers nowadays on board games. One “powerful boost” in that interest, Ms. Griffin believes, has come from emerging neuroscience research on how numbers are represented in the brain, and what that means for students learning math.



**“DO YOU NOT SEE
HOW NECESSARY A
WORLD OF PAINS
AND TROUBLES IS TO
SCHOOL AN
INTELLIGENCE AND
MAKE IT A SOUL?”—
JOHN KEATS**

Ann McPartland, a teacher at Jacob Hiatt Magnet School in the 23,000-student Worcester district, has noticed that the basic counting ability of her prekindergartners varies greatly, and she sees a link to their families’ economic circumstances. The teacher began using board games, card games, and other simple counting activities designed by Number Worlds about seven years ago, in an attempt to close those gaps. One of her favorite counting games is not played on a board, but rather on a vinyl sheet with numbered spaces that she spreads out across her classroom floor.

Her students stand in the spaces, numbered one through 10. She has them walk forward while counting aloud, then backward, counting in reverse order. When a student stands on a particular space, the teacher will ask the class how many steps he or she must take to reach a different number.

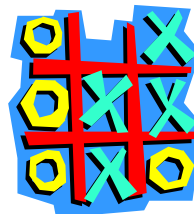
“I’m hoping they can reach the point where they understand that six spaces, plus four, equals 10,” explained Ms. McPartland, who’s been teaching for 25 years. A large percentage of her pupils, she estimates, come from impoverished backgrounds.

Games “are relevant to children,” she said. “It’s something tangible for children. They can see and touch [them].”

Many commercial publishers of math materials use board games and card games, involving dice and other materials, in their curricula. Everyday Mathematics, taught to an estimated 3 million elementary students in 185,000 classrooms nationwide, incorporates board and other games into its print materials and computer-based programs.

Games offer math teachers a way of practicing and reinforcing arithmetic and other math skills, as well as supplementing a sole diet of drills and practice-problems, said

Andy Isaacs, the director of the third edition of Everyday Mathematics. Not only do games engage students, they also present the opportunity to present “high level” math concepts in a colorful and simple way, said Mr. Isaacs, who is also a senior research associate in the physical sciences division at the University of Chicago.



Despite those benefits, some teachers and parents are reluctant to use board games and similar activities, he noted. Those critics tend to regard them as activities that cut into time spent on practicing problems, when in fact games should be used as another form of math practice.

“The idea that something could be simultaneously fun and worthwhile academically just doesn’t add up for them,” Mr. Isaacs said of the skeptics.

Research on the link between board games and math learning has implications not just for educators, but also for parents, said Douglas H. Clements, a professor of learning and instruction at the State University of New York at Buffalo.

Turning off the television and engaging children in a simple game just a few times a week can greatly improve their comfort in math, said Mr. Clements, who has designed a curriculum based in board games, puzzles, computer software, and other activities to build youngsters’ number skills.

He said he doesn’t doubt the educational value of some television programs and online activities, but emphasizes the value of other, simple options.

“There’s a huge amount of math in these board games and card games that is not on television and video games,” Mr. Clements said. “Even if you played once or twice a week, it would probably have a real effect on kids.”

New Teacher Support Group Participant



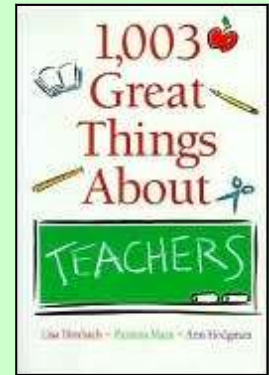
AMANDA SMARTT

STONER CREEK
ELEMENTARY

4TH GRADE
SCIENCE

WHY DID YOU BECOME A TEACHER?

"To make a difference in the future. I want children to know and truly believe that whatever is going on in their life, they can succeed in school. Teaching is the only profession that actually touches the future."—Amanda Smartt



1,003 Great Things About Teachers

by
Birnbach, Marx, Hodgman

Teachers are simply the best. They're the special breed of people who strive to infuse us with an appreciation for the miraculous world in which we live and a sincere passion for learning. What better way to sing their praises than by declaring more than a thousand great things about them? That's what the successful author trio of Birnbach, Hodgman, and Marx does in this fourth book of their highly successful 1,003 Great Things series.

This wonderfully humorous book features entries such as:

- o They are as happy about Friday as you are.
- o They tend to have highly legible handwriting.
- o Who else knows how important it is to be line leader?
- o They are excellent spellers.
- o Teachers know about Roman numerals.
- o They are more afraid of the principal than you are.
- o They lend you milk money when you forget yours.

TEACHER FACTS

A Higher Degree of Education



In 2006, teachers holding master's degrees earned more than teachers who held a bachelor's degree. For example, the median base salary for teachers with a master's degree was \$51,077 per annum in Colorado, while the median base salary for teachers with a bachelor's degree was \$36,702.

WHAT TEACHERS SAY THEY WANT

Teachers are concerned that schools, as currently organized, are not fully equipped to deal with the worsening social problems they confront.



More than three-fourths (77%) of teachers think that overall government funding for education in their school is insufficient, according to an annual survey.

If there were no increase in overall funding for schools, 90% of teachers would prefer to see fewer mandated programs and more money to general education, rather than more mandated programs and less money to general education. On both these questions, teachers in all kinds of schools are in general agreement.

When asked which services they would most like to see gain funding in their schools, only 4% of teachers chose sports, while 40% chose social work and family services.



WILSON COUNTY SCHOOLS

X THE TOP TEN THINGS NEW TEACHERS WOULD LIKE TO HEAR FROM THEIR FELLOW TEACHERS:

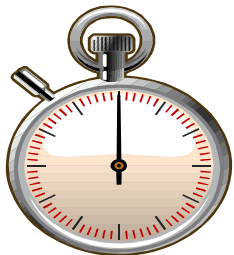
10) Have a life.

Take care of yourself and your life outside of work. Whether the fatigue is emotional or physical, work can be an effort when you are too tired to put on a public face, to smile and chat at the mailboxes, to stand in front of the classroom. So you must take care of yourself, "fill the tank," whatever that is to you—working out at the gym, seeing a show, jogging, getting away from town for a weekend, playing with your kids or someone else's. If you are drained, you can't be imaginative in the ways your teaching and research require. If you take care of yourself, you'll have more time and energy to do what matters and you'll enjoy this job, despite all the pressures. An academic career reminds me of what Mark Twain once said of Richard Wagner's music: "It's better than it sounds." For most of us, an academic career is better than it sounds. For some of us, it remains the greatest job in the world.

Time Management Tips for Teachers

COMMUNICATING EFFICIENTLY

8. At the fall open house, place a notebook and pen on the table near the entrance. Post a sign asking parents to write their e-mail address in the notebook. E-mail can improve parent-teacher communication while also saving time. This is a quick way to gather e-mail addresses at the beginning of the school year.



9. Find a store that makes rubber stamps and order some with the phrases or words that you find yourself using over and over, including your

signature, "Parent's signature:" and "Read but not graded."

10. Rather than writing comments on report cards that you may decide to change upon rereading, set your computer up to print out a label sheet instead. That way, you can easily edit your comments on-screen before printing, or you can print out a revised label and stick it over the old one. You will save yourself from the messy and time-consuming task of using correction fluid.

Continued next week...

Need a Laugh?



It is the policy of the Wilson County School System not to discriminate on the basis of race, color, religion, sex, national origin, age, or disability in its educational programs or employment policies as required by Titles VI and VII of the Civil Rights Act of 1964, the Equal Pay Act of 1973, and the Americans with Disabilities Act.