

International Review

Students' poor performance shocks Japan

Rankings slide in OECD survey of 41 nations, especially in reading ability

Kwan Weng Kin¹

Tokyo - Japan's educational authorities are in deep shock after a global survey confirmed their worst fears - that Japanese children have slipped badly against other nations in academic abilities.

In a survey by the OECD (Organisation for Economic Cooperation and Development) involving 41 countries, Japanese 15-year-olds fell from 8th to 14th place in their ability to read and understand prose passages and diagrams, and from first to sixth place in mathematical skills.

'We should clearly recognise that our academic levels are falling,' a grim-faced Education Minister Nariaki Nakayama told reporters.

'We must thoroughly instill in our children that they have to study more. If Japan stagnates, neighbouring countries will catch up with us and leave us behind.'

Japan was ranked second in science - the same as in a previous survey done in 2000 - and fourth in problem-solving, a new category.

But the Japanese found the slide in their children's reading ability - a skill crucial to problem-solving - especially disturbing.

Professor Tatsuo Motokawa of Tokyo Institute of Technology, a biologist and author of school texts, faults the excessive use by children of mobile phones and Internet chat rooms to communicate with one another.

'The language they use is not logical but full of colloquialisms. We need to boost their reading habits and train them in writing skills,' he was quoted as saying in the Mainichi Shimbun daily.

Mobile phone messages by Japanese teenagers are not only short, they also tend to ignore the usual rules of grammar and frequently employ symbols only their users can decipher.

¹ From The Straits Times [Singapore], December 9, 2004. See <http://straitstimes.asia1.com.sg/sub/asia/story/0,5562,289509,00.html>

As Test Scores Fall, Japanese Schools Get Harsh Lesson²

Disappointed by their country's declining performance on international tests, Japanese parents and educators are beginning to rebel against the Education Ministry's switch to "loose education."

Once known for a strictly disciplined school system that regularly churned out top scorers on international exams, Japan decided to de-emphasize memorization and shift the focus to critical thinking in the 1990s. The country modeled its changes on schooling in the United States, which seemed to be faring better in the global economy.

But charging that the reforms are only making students dumber, dozens of Japanese school districts are now returning to the daily drills and heavy workloads of the past. One of the loudest cheerleaders for rote-intensive learning is Hideo Kageyama, head of the Tsuchido Elementary School in western Japan. After adopting a Kageyama-devised instructional method that utilizes timed math drills and repetitive recitations, the school's test scores climbed so quickly that the educator became a national celebrity. Books promoting his methods have sold four million copies.

Kageyama argues that the constant drills do not make his students robotic, but instead improve their creativity. "Cramming facts is good for students," he says. "It energizes the brain, just like booting up a PC."

Chinese schools get creative

High standards are the norm in this Chinese school.
But can students think creatively?

Linda Baker³

Suzhou, China - It's 7:30 on a Monday morning, and the 3,500 students who attend Suzhou Middle School No. 9 are streaming toward the school field. The kids are getting their midterm exams back today, and the nervousness in the air is palpable.

"We call it 'the last breakfast,'" jokes 17-year-old Shen Wenjie, a somewhat unexpected Christian reference to the morning meal before the exams are returned.

² Abstract from the NASSMC Briefing Service (NBS) that is supported by the National Security Agency (NSA) and ExxonMobil Foundation, November 9, 2004. Original article appeared in the Wall Street Journal, November 3, 2004, p. A 1. See <http://www.wsj.com> -- need to be a subscriber.

³ From the Christian Science Monitor, January 20, 2004. See <http://www.csmonitor.com/2004/0120/p14s01-legn.html>

Like all schools in China, School No. 9, located in the city of Suzhou in the Jiangsu Province, revolves around a competitive system of standardized tests and exams. This process culminates with three "black days" in July: a comprehensive national college entrance examination for high school graduates that determines placement in the nation's university system.

But as China's economy continues to grow at a breakneck pace, the nation's education system is beginning to change. Just like the United States, the world's most populous country is in the midst of national school reform. But the US, under No Child Left Behind, is moving toward national standards with a focus on reading, writing, and math. China, on the other hand, is restructuring its system to stress creative thinking and local control.

"In the past, education was very rigid; we call it 'force-fed' education," says Gu Yue Hua, deputy director general of the Suzhou Education Bureau. The teacher used to be the authority, she says. "Now the teacher's job is to promote, cooperate, and guide. Now we emphasize hands-on experience for students."

Located 30 miles from Shanghai, Suzhou has a population of 2.2 million people and a reputation as a sophisticated high-tech metropolis. Many of its public schools, including No. 9, are considered national models of excellence. No. 9 may represent one end of the spectrum. But it also exemplifies the challenges associated with fostering ingenuity and innovation in a culture that has valued rote memorization since the days of Confucius.

"The students' endurance for work and their ability to focus is amazing," says Kevin Crotchett, a principal in Portland, Ore., who spent the 2001-02 school year teaching English at Suzhou Middle School No. 10. "We're constantly talking in the US about creating lifelong learners," he says. "The kids I was with [in Suzhou] were lifelong learners." Still, says Crotchett, China's social and political history of conformity complicates efforts to create a more student-centered, exploratory curriculum. "The Chinese do a phenomenal job in the sciences and mathematics," he says. "But the students don't have the discussion skills."

Several Suzhou teachers and administrators had their own reasons for being skeptical about school reform. "Education reform in theory gives principals more choice," says Ni Zhenmin, principal of No. 9. "But we still must give the same national exam. So it still determines the curriculum." Accustomed to budget and program cuts, parents in urban school districts in the US might find much to envy about schools in the wealthier Chinese cities.

At Suzhou Experimental Elementary School, for example, the school budget increased 40 percent over the past six years, the majority of it going to teachers' salaries and programs. In most of the city's primary and middle schools, art, music, and physical education are staples of the curriculum. Many schools stay open as late as 11 p.m., helping build what Crotchett describes as a powerful sense of community in the schools.

Of course, the kids also double as janitors, sweeping the floors and cleaning desks before and after each school day. And state-of-the-art computer labs belie the universal lack of heating in the schools, even though temperatures fall to 32 degrees F. during the winter.

China's national school reform debuted last year in 500 counties, serving 25 percent of the Chinese student population. At School No. 9, incorporating "progressive" ideas about education means that senior math students are sometimes called on to lead the lecture and discussion themselves.

It means new history textbooks, ones that acknowledge the role the Chinese Nationalists - who lost to the Communists during the 1949 revolution - played in fighting the Japanese during the 1930s. And it means extracurricular activities like the drama club.

A top English and speech student, Shen says he notices teachers interact more with students than they used to. "We call them friends," he says. But Shen also says rote methods still dominate, especially when it comes to homework: "Exercises, exercises, that's all we do. It's so boring." As part of the move toward local innovation, School No. 9 has published five of its own textbooks, on topics ranging from the school's 1,000-year history to Kung Fu. "The students are interested," says Ni, "but since it doesn't help them on the exam, they are useless."

More exchanges with American students and teachers would facilitate efforts to retool teaching methods and curriculum, say some Suzhou teachers. Last year, a teacher from Suzhou Primary School No. 1 spent a year at Woodstock Elementary in Portland, Suzhou's sister city. This spring, a group of Portland students will travel to Suzhou. "Tell American teachers we would like them to teach here," says Xu Tainzhong, principal of the Suzhou Experimental Elementary School.

Benefits Of Music Lessons Include Link To Scientific Ability

Karin Lipson⁴

Instruments of Education

Whew. You've successfully packed the kids off for the school year with their spanking-new gear: pencils, pens, books, lunch box, calculator. But hold it: Did you include a violin or a clarinet?

For some parents, making sure their children study music, at school or at home, has become almost as basic as making sure they master the three Rs. In fact, a new study that

⁴ From Newsday, Thursday, November 4, 2004. See <http://www.ctnow.com/technology/hc-techlede1104.artnov04,1,4189905.story?coll=hc-headlines-technology>

says music lessons may boost IQ scores could have parents more willing than ever to ante up for everything from musical toys and videos for their toddlers to piano lessons and instruments for school-age children.

Are they right? Can music turn your kid into a little Einstein, or at least help him pass physics? It's a complex issue, but one that should be examined before you sign on for the expense of lessons or the daily commitment of pushing Johnny or Susan to practice their instruments.

Though current information is less than conclusive - lots of "on the one hand, on the other hand" - it may help parents make an informed decision about striking the right note in the musical pursuit of that elusive academic edge for their kids.

First, about that new research: Conducted in Canada, the study found that children who took keyboard or singing lessons for a year gained more points in year-end IQ tests than their peers who studied drama or took no extracurricular lessons at all.

But the study, published in August's *Psychological Science*, also noted that the benefits were small and that other activities performed in small groups and requiring long periods of concentration - chess lessons, for example - might give a similar IQ bounce.

The Canadian kids were 6 years old. Skipping ahead about 12 years, College Board data from the 2002 SATs also show that music students scored more than 40 points higher on their math SATs. (They also scored higher on the verbal section.)

And then there's the famed 1993 "Mozart effect" study of college students; the spark for much of the current scientific (and commercial) interest in the relationship of music and intelligence. The study said that listening to a Mozart piano sonata temporarily improved the students' spatial thinking, which is crucial to some forms of math and science.

Casual observation, too, often leads people to make a connection between music and, especially, scientific ability. "I see it in a lot of the people who work here," says Cathy Cormier, a cancer researcher and doctoral candidate at the Cold Spring Harbor (N.Y.) Laboratory.

A pianist and oboe player, Cormier counts violinists, flutists, saxophonists and singers among her fellow scientists. The musical skills of the incoming batch of doctoral candidates have prompted discussions of "starting a woodwind quintet," with Cormier on oboe.

What do her musical lab mates seem to have in common? "An analytical ability" that they apply to both science and music, Cormier says. "And creativity is part of it, because you need creativity to be a scientist."

Other musically inclined scientists, too, refer to the "analytical ability" necessary to decipher both musical and math/science notations. "What attracted me to each [field] was a very rich language," says Diana Dabby, an assistant professor of electrical engineering and music at Olin College of Engineering in Needham, Mass. "There was always a my-

stery about it," says Dabby, who paid her way through engineering school by working as a concert pianist. "You can never fathom all of it, so you can continue to grow. And each has a very rich set of symbols."

The mysterious ties between music and science prompted a panel discussion-concert at Carnegie Hall in June. The panelists (including Dabby) were experts in music, science, or both. The four young performers - accomplished on the piano, the cello and the harp - were recent medalists in the annual Siemens Westinghouse Competition for Math, Science & Technology.

If they don't all get to Carnegie Hall, it's true that the high-school kids who participate in the Siemens Westinghouse science competition - whose winners receive college scholarships of up to \$100,000 - also have a musical bent. According to a 2003 contestant questionnaire, nearly two-thirds play a musical instrument.

What accounts for this? It could be a nurturing childhood, in which parents urge their children to excel. "Almost everybody who reaches high levels of expertise in everything comes from very rich environments," says Robert Duke, director of the Center for Music Learning at the University of Texas and a Siemens panelist.

And just plain smarts also plays a part, says Randall W. Engle, chairman of the School of Psychology at the Georgia Institute of Technology. "If we tested 10,000 children and removed this general cognitive ability from the results, there would not be much of a special relationship between music and math," says Engle, who was also on the panel.

All in all, it seems, there's just not enough hard scientific evidence yet to arrive at a final equation about the math-music connection, or the broader connection between music and intelligence.

In that case, what's a parent to do? It may be wiser to embrace music education on its own merits, for the joy of it, rather than as a science-prep or college-entrance course.

In other words, don't assume that music lessons alone will get Junior into the Ivy League. On the other hand, the research is just tantalizing enough to say, Hey, kids: Don't stop practicing.

PISA Results Show Need for High School Reform

U.S. 15-year-olds outperformed by other nations in mathematics, problem-solving⁵

America's 15-year-olds performed below the international average in mathematics literacy and problem-solving, according to the latest results from the Program for International Student Assessment (PISA). The test, given in the spring of 2003, assesses the

⁵ From the U.S. Department of Education, December 6, 2004. See <http://www.ed.gov/news/pressreleases/2004/12/12062004a.html>

abilities of 15-year-old students from 41 countries (including 30 of the most developed) to apply learning to problems with a real-world context.

U.S. Secretary of Education Rod Paige said the results point to the need for reform of the nation's high schools. "The PISA results are a blinking warning light," he said. "It's more evidence that high standards and accountability for results are a good idea for all schools at all grade levels."

President Bush has called for annual learning assessments for all students in grades 9-11. Under the No Child Left Behind Act such assessments, developed and driven by the 50 states, currently apply to students in grades 3-8. The president has also called for high schools to offer more challenging coursework, and for more students to elect to take it. As part of that effort, the Department has funded the Advanced Placement Program, which helps students, particularly low-income students, to participate and succeed in Advanced Placement courses and exams. In addition, he has proposed the Striving Readers program that will allow schools to develop specific intervention programs so that struggling students get the help they need before they reach high school.

Last year the Department of Education launched the Preparing America's Future High School Initiative to help states develop and share ideas leading to world-class schools that challenge and engage their students. "Many of our high schools are already world-class," Paige said. "However, too many graduate students are ill-prepared to succeed in higher education or the workforce. These students are being robbed of their life's potential. A high school diploma should be meaningful-a road map to a fulfilling future."

The report on U.S. PISA results, *International Outcomes of Learning in Mathematics and Science Literacy: PISA 2003 Results From the U.S. Perspective*, was released today by the Education Department's National Center for Education Statistics (NCES) in the Institute of Education Sciences. The international results on PISA were released today by the Paris-based Organization for Economic Cooperation and Development (OECD).

PISA is organized under the auspices of the OECD and is directed in the United States by NCES. The OECD is an intergovernmental organization of industrialized countries for cooperation in research and policy development on social and economic topics. PISA assesses students every three years to provide participating nations with regular information on learning outcomes for reading literacy, mathematics literacy and science literacy and cross-curricular skills, like problem-solving. Problem-solving questions involved students using reasoning skills to make decisions, troubleshoot systems, and analyze and design systems based on given criteria. PISA 2003 focused on mathematics literacy and problem-solving.

Some key findings from PISA 2003:

- Of the other 38 comparison countries, Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Hong Kong-China, Iceland, Ireland, Japan, Korea, Liechtenstein, Luxembourg, Macao-China, Netherlands, New

Zealand, Norway, the Slovak Republic, Sweden, and Switzerland outperformed the United States in mathematics literacy in 2003. These same 23 countries, plus Hungary and Poland, outperformed the United States in problem-solving.

- Male 15-year-olds outperformed female 15-year-olds in mathematics literacy in the United States and two-thirds of the other participating countries. However, there was no difference in performance between males and females in problem-solving in the United States or in most (32 of the 39) participating countries.
- White students performed above the OECD average in mathematics literacy and problem-solving, while Black and Hispanic students performed below the OECD average.
- U.S. scores in the two mathematics literacy content areas that were measured in 2000 (space and shape, change and relationships) did not change from 2000 to 2003. About two-thirds of participating countries outperformed the United States in these topics in 2000 and 2003.
- As in PISA 2000, U.S. students scored at the OECD average in reading literacy in 2003.
- U.S. students scored below the OECD average in science literacy in 2003.

In releasing the U.S. findings, Robert Lerner, commissioner of NCES, said, "PISA provides important information about education in the United States and in other industrialized nations, giving us an external perspective on U.S. performance. We need PISA in particular because it offers such a different measure of achievement, one that poses complex problems that students might realistically encounter in their lives."

For further information on PISA or to download the report *International Outcomes of Learning in Mathematics and Science Literacy: PISA 2003 Results From the U.S. Perspective*, please visit NCES' PISA Web site at <http://nces.ed.gov/surveys/pisa>.

The PISA report can also be ordered by calling toll-free 1-877-4ED-PUBS (1-877-433-7827), TTY/TTD 1-877-576-7734; e-mailing edpubs@inet.ed.gov, or making a request via the Internet at www.edpubs.org.

Additional Note by Dr. Gerald Bracey, educational researcher:

Hidden among the predictably alarmist media and BRT coverage of PISA was this little gem: "According to Pasi Sahlberg, a former official in the Finnish Education Ministry, who now works at the World Bank, Finland's success on the PISA survey reflects four decades of educational reform based on the idea of a single school system for everybody. Every child goes to the same school and there is no school choice, Sahlberg said. Teachers focus 100 percent on educating and teaching children rather than preparing them for tests."

Can you imagine America hanging onto an idea for 40 years?

As I noted about the Finnish success in the first PISA, Finnish schools appear to take a "no child left behind" [concerning the NCLB law; MT] approach seriously.

They also take money from high-scoring schools and give it to low-scoring schools. Only about 1% of Finnish students attend private schools. It's worth digging up these comments if only to read an extended quote from a Swiss reporter sent to find out what was behind the Finnish success--Research, Phi Delta Kappan, November 2002.

Finally, in the original PISA, Australia and New Zealand were near the top in reading. That is also true in PISA2003. Roo and Kiwi kids learning reading mostly through whole language.

To learn more about the report and OECD Programme for International Student Assessment (PISA) please go to http://www.oecd.org/document/55/0,2340,en_32252351_32236173_33917303_1_1_1_1,00.html

To download the whole report in English in PDF format please go to <http://a455.g.akamai.net/7/455/1879/v1/193.51.65.71/dataoecd/1/60/34002216.pdf>

For other publications by PISA please go to http://www.oecd.org/document/4/0,2340,en_32252351_32236159_33668932_1_1_1_1,00.html

Contrarian finding: Computers are a drag on learning

G. Jeffrey MacDonald⁶

For all the schools and parents who have together invested billions to give children a learning edge through the latest computer technology, a mammoth new study by German researchers brings some sobering news: Too much exposure to computers might spell trouble for the developing mind.

>From a sample of 175,000 15-year-old students in 31 countries, researchers at the **University of Munich** announced in November that performance in *math* and *reading* had suffered significantly among students who have more than one computer at home. And while students seemed to benefit from limited use of computers at school, those who used them several times per week at school saw their academic performance decline significantly as well.

"It seems if you overuse computers and trade them for other [types of] teaching, it actually harms the student," says lead researcher LUDGER WÖSSMANN in a telephone interview from Munich. "At least we should be cautious in stating that increasing [access to] computers in the home and school will improve students' math and reading performance."

⁶ From the Christian Science Monitor, Monday, December 6, 2004. See <http://www.csmonitor.com/2004/1206/p11s01-legn.html>

With the rise of computers in classrooms, has come a glut of conflicting conclusions about the actual value computers bring to timeless tasks of teaching reading, writing, and arithmetic. For some in education, these results indicate how thoroughly this field of research has come to resemble that of the conventional wisdom about weight loss, which seems to shift with the tide. Yet others see hopeful signs of a maturing debate, where blind faith in the educational benefits of technology is giving way to greater appreciation for an understanding when computers are useful and when they're not.

"You could argue that's the big issue here: People need guidance in how to use [computers in education]," says Dr. MARCIA LINN, professor of education and director of the Technology Enhanced Learning in Science Center at the University of California at Berkeley.

In surveying the gamut of research for his 2003 book "The Flickering Mind" (Random House), journalist TODD OPPENHEIMER [Editor's note: The original version misstated Oppenheimer's first name.] found most studies have overstated either the benefits or the drawbacks computers pose in education. The most thorough studies have found computers to have little effect either way, he said, although some guiding principles are beginning to emerge.

Computer technology "is used too much and very unwisely in the younger years, and not wisely enough in the older years," says OPPENHEIMER. For 15-year-olds, he says, "you'd be foolish not to use the [World Wide] Web" for a research project, but only alongside conventional information-gathering techniques. The big picture goal: help students use high-quality sources.

Against this backdrop, the German study stands out on account of two features: its unusually broad, international sample and its bid to isolate computers as a performance-shaping factor.

Mindful that computers are more common among affluent families, whose children often outperform more disadvantaged ones, the University of Munich researchers controlled for such variables as parents' education and working status.

When those were removed from the equation, having more than one computer at home was no longer associated with top academic performance. In fact, the study says, "The mere availability of computers at home seems to distract students from learning." Computers seem to serve mainly as devices for playing games.

Still, there were a few exceptions: Academic performance rose among those who routinely engaged in writing e-mail or running educational software.

To hear new questions raised about the educational value of technology is music to the ears at the Waldorf schools, an association of 350 schools where students don't touch computers until the 11th grade. There the priority lies with training students to think,

says PATRICE MAYNARD, leader for outreach and development, because problem-solving acumen and creativity lead to success and a joyful life.

Yet for educators in Maine, computers represent something far more promising. There they seem to hold the key to the type of skills employers want to see as the state says goodbye to textiles and other antiquated industries. Maine taxpayers are investing \$37 million over four years to put laptop computers into the hands of every seventh- and eighth-grader, as well as their 3,000 teachers.

As the debate continues, consensus holds that more research is needed to know exactly where computers make the most difference in an educational process. "There's this sort of bizarre belief that computers cast a spell over students and teachers and schools," says CHRISTOPHER DEDE, professor of learning technologies at the *Harvard School of Education*. "Can you imagine what would happen if you had the same in business, asking if computers were interfering with performance? It would be a big joke."

Education as Creative Conversation

John Kaufman⁷

The recent emphasis on 'accountability' in schools is leading to a new age of pedagogical hell.

All the recent emphasis on test scores and "accountability" in American education—a scientific reaction against a perceived relaxation of standards—is leading both public and private schools into a new age of pedagogical hell. While the bar of what a good education is has indeed been lowered, it is not a bar that can be set at a mathematically measurable height. Our schools are declining because our culture is declining, more proof of which is the reduction of education to the taking of standardized tests.

The root of education is the verb "educate," which means not the placing of academic stuff in, but the drawing of the person out. Thus an educator, by definition, is not so much a broadcaster of facts or information as he or she is a stimulator of thought and action, a philosopher in the tradition of Socrates.

Facts are necessary for the educating of thought, of course. But now the facts, because they are easily taught and tested for by teachers, administrators, politicians, and taxpayers, have become the only thing that matters. Education is being restricted to the hoarding of data, what some call "rote learning"; success is then measured by how many students have memorized (at least for the moment) the required information, as displayed by a test. And in the case of multiple-choice tests, what is being measured is sometimes how well a student can guess.

⁷ From *Education Week* [American Education's Newspaper of Record], March 24, 2004, Vol. 23, No. 28, p. 38. See <http://www.edweek.org/ew/ewstory.cfm?slug=28kaufman.h23>

This is not to say that some rote learning isn't useful. Spelling and the multiplication tables, for instance, are still best matters of memory, despite the advent of calculators and spell-checking. And it is helpful to understand that Frank Lloyd Wright had nothing to do with building early aircraft, and good for the soul to know a few poems by heart.

But the act of memorizing is a solitary act, and we don't need schools and teachers solely for that. Encyclopedias contain all the facts any student may need. Schools and teachers exist for education, which at heart is about conversation and creativity, not the dispensing of data. Our most memorable and effective teachers are not those who give us lots of information; the best teachers are the ones who relate knowledge to action, who affect our lives, who converse with us.

The arts and sciences are referred to as "liberal" because they have traditionally sought to graduate people that are intellectually liberated, that is, free to think and act in what we would hope is intelligent, critical, and healthy ways. Teachers who merely present facts (or ideas as fact), and then test to measure memory or indoctrination, are not educating their students. Such teaching turns school into one big game of trivial pursuits, a game some students have no interest in playing. Education is about conversation and creativity, not dispensing data.

Even those students who are dedicated and talented memorizers and parrots know that the best teachers are those inspiring them to think, those who say: "The square root of 36 is 6. So why does it matter?" or "The nation of Turkey is located here. Now, why should we Americans care about it?" or "Charles Dickens wrote the novel *Hard Times*. Now that you've read it, why do you think he wrote it?" Without the willingness to sincerely engage the student responses, to ask questions that are not merely rhetorical, to begin a conversation and follow where it leads, meaningful education does not occur.

Some teachers will protest that students cannot think for themselves, or will not seriously participate, or will feel unduly challenged by a Socratic method. Such teachers are simply reluctant to give up some control and the laziness of fact-feeding, preferring the domineering, narrow-minded role of lecturer and expert. Nor does one have to be the stern, intimidating interrogator of law school fiction. Conversing with students in a mutually respectful, truly educational fashion is in fact possible, though sometimes, thanks to disrespectful cultural trends, difficult. But students are far more likely to respect teachers and use their minds if they feel welcomed to contribute in constructive ways.

While subjects such as literature and art lend themselves easily to creative conversation, creativity need not be banished from math or science or history. I urge teachers of all subjects to make better use of their own and their students' imaginations and to resist the political pall of standardized stupidity.

Education can only thrive in an atmosphere of democratic give-and-take. Though some private schools and teachers may have doctrinal agendas, any school or teacher that wishes to do good work and prosper must allow for debate and creativity if the goal is to educate in the broadest sense. An honest educational conversation requires a teacher to make his or her case on the subject at hand, note helpful student contributions, admit mistakes and changes of heart. If you really want to impress a young person and teach him or her something, admit you were wrong.

Of course, some souls that have not been well educated will continue to insist on mathematical proof that education is occurring. But philosophers know that education is always occurring, in and out of schools. For better or worse, we are all being educed.

John Kaufman, Wauwatosa, Wis./USA



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Tagungen

Tagungsberichte

Erste Deutsche Dyskalkulie-Fachtagung

Heinz Rosin

Der Bundesverband Legasthenie und Dyskalkulie e.V. war Ausrichter der Fachtagung, die unter dem Thema: *Dyskalkulie – eine Herausforderung für Schule, Politik und Gesellschaft* stand und am 13.3.2004 in den Mauern der Universität Würzburg stattfand.

Die mit etwa 800 Teilnehmern sehr gut besuchte Tagung vereinte Wissenschaftler, Lehrer, Vertreter von Schulbehörden, Eltern und Praktiker zu einem Thema, das in seiner inhaltlichen Dimension, seiner planerischen Brisanz für Kinder- und Jugendhilfe, seiner schulpolitischen Diversität und elterlichen Betroffenheit aktueller denn je scheint. Über die große Anzahl der Teilnehmer drückt sich auch Informations- und Handlungsbedarf aus. Denn schließlich konnte sich auch die KMK in ihrem Beschluss¹ vom 4.12.2003 bisher nur auf „Grundsätze zur Förderung von Schülerinnen und Schülern mit besonderen Schwierigkeiten im Lesen und Rechtschreiben“ einigen.

Die Eröffnung der Fachtagung setzte mit dem realistischen „Mutter/Kind Dialog“ (vorgetragen von Frau SCZYGIEL und Frau WEJDA) zum Rechnenlernen im Kontext von Individuellem, Familiärem und Schulischem ein emotionales Highlight.

Der Vormittag war geprägt von drei Plenarvorträgen, in denen das Thema stärker aus neuropsychologischer, kinder- und jugendpsychiatrischer bzw. rechtlicher Sicht behandelt wurde.

PD Dr. M. VON ASTER ging in seinem Beitrag „Rechenstörungen und ihre Ursachen“ ausgehend von Überlegungen zur kognitiven Zahlverarbeitung bei Erwachsenen auf grundlegende sprachliche, visuell-räumliche und schulische Entwicklungsprozesse ein. Im Beitrag wurden zwei der von DEHAENE experimentell bestätigten Effekte, der Distanz-Effekt und der Größen-Effekt hinsichtlich der zu beobachtenden Reaktionszeiten beim Vergleich zweier Zahlen vorgestellt. Der kontinuierliche Distanz-Effekt wird als Beleg für die analoge Encodierung der Zahlen, für einen „mental Zahlenstrahl“ gesehen und der SNARC (*Spatial Numerical Association of Response Codes*)-Effekt, durch den beschrieben wird, dass größere Zahlen z.B. in der Paritätsaufgabe (gerade/unge-

¹ http://www.kmk.org/doc/beschl/304_grunds_foerd.pdf