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Time to Re-examine the Business of Education

Legendary automaker Henry Ford once said of his Model T: “The customer can have any color he wants so long as it’s black.” Of course, it wasn’t long before market pressure and changing cultural norms forced his hand and brought a full color spectrum of cars to Ford’s showrooms. The ability to adapt made Ford Motor Company one of the most successful and longest-lived auto manufacturers in history.

Public education isn’t profit-driven but applying a little business acumen to the industry is certainly in order. Like Henry Ford, it’s time we recognize our “market forces,” listen to our “customers” and adapt. Our ability to compete in a global economy relies on it. A new effort by the National Association of Elementary School Principals (NAESP) does just this, shifting the paradigm from one that views education as K-12 to one that incorporates Pre-K as well.

Around the country, principals are being asked to step out of their schools and engage with the broader community of early childhood education providers. That’s no small change. Clearly the thinking is moving away from separate silos for early education and “child care” and toward school readiness as an integral part of providing a high-quality education in all early childhood settings. Public schools are not the only place this is happening.

Private elementary and Pre-K providers are also recognizing the need to create a continuum that begins before kindergarten and extends to college.

In a future with more and bigger Pre-K programs, it also makes sense to rethink how the Head Start program can perform better and more interactively with the rest of the education system. A new report shows that the impact Head Start has on 3- and 4-year-olds is unacceptably low in both academic and social-emotional learning. Yet the idea behind Head Start is as valid now as it was when the program started.

With reauthorization at hand, there is an historic opportunity to re-energize Head Start and introduce a new level of accountability. Improving teacher standards and raising expectations for the program should be a priority—research on other preschool programs shows that much larger gains are possible. And better coordination with state-funded preschool programs is a must.

Of the many aspects of school readiness, social-emotional development in preschoolers is too often given short shrift. The news has been full of headlines about behavioral problems among young children but without clear advice regarding what to do about them. Here, too, a little economics might be useful—recognizing that behavior problems stem from the child’s supply of social skills and the demands of parents, programs and others. A new NIEER brief providing guidance is discussed on page 4.

Public policies like No Child Left Behind, demographics, and school finance litigation have changed the business of education for everyone involved. It no longer suffices to pay lip service to the need for quality Pre-K or to create programs but fail to fund them adequately. Nor is it acceptable to hire teachers but ignore the need for training that prepares them for the challenges of today’s classroom. It is also not enough to think of education as a series of discreet units existing side-by-side. In the parlance of NAESP, we must build “learning communities.” To quote Ford: “Coming together is a beginning; keeping together is progress; working together is success.”

From where I sit, that’s a paradigm shift in the making.

W. Steven Barnett
Director, NIEER
Seattle Early Literacy Program Creates Innovative System for School Readiness

It’s Monday morning at Seattle’s Beacon Hill Elementary School, and a group of excited students walks the halls, looking like any other kindergartners. But these 4-year-olds won’t be ready to make the big leap for at least another year. Leading the visitors is Julia Matthews, kindergarten transition coordinator for the Seattle Public Schools. Along with making sure the youngsters and their families see the schools and meet the teachers and principals, Matthews helps prekindergarten and kindergarten teachers connect their curricula, and she talks with parents about what to expect, how to prepare their children for kindergarten, and how to choose a good school.

Matthews represents just one-fourth of a school readiness program the city has devised by tying together literacy-focused community preschool centers, public schools, the city’s public libraries, and a local community college in a unique way. Each piece of the program addresses a specific need around creating school readiness—literacy-enhanced classrooms, preschool curricula aligned with expectations for incoming kindergartners, teacher training and development, and family participation. It’s an innovative approach that considers the many facets of school readiness and creates a coherent early education system.

Seattle Early Reading First began in Fall 2003 with a three-year grant through the federal government’s “Good Start, Grow Smart” initiative. The city tapped five existing childcare facilities and enhanced their curricula around language and literacy. The schools serve predominantly Latino and African-American neighborhoods, and they vary widely in their settings: two centers are bilingual. Three of the five are community-based non-profits, and two are state-funded preschool programs for low-income kids. Yet all have been successfully integrated into this early education system.

Sonja Griffin, SERF project manager, said the program’s planners looked at what has been effective in the past and how to fill the gaps in early education. “We really considered what the community would be responsive to. It’s a wonderful partnership and families have been very responsive. They see the library as a friendly welcoming place…and every SERF child has a library card.”

Walk into any of the 14 SERF classrooms, and you’ll see walls papered with writing—children’s writing, the teacher’s writing, magazine cutouts, posters, letter shapes. In this print-rich surrounding, children are infused with a love of reading and learning, a foundation that’s crucial to success in kindergarten and beyond. The teachers have been specially trained in literacy and language development, an ongoing process that takes them out of the classroom on release time to study for their nightly classes. They also use release time to visit their elementary school colleagues so they can plan coordinated lessons and discuss other ways to make the preschool-to-kindergarten transition seamless.

Better Training, Better Teachers

Unlike their counterparts in school-based programs, which require teachers to have a bachelor’s degree and teaching certificate, SERF teachers in community-based

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Controlling Emotions is Critical to Preschoolers’ Success in School and Life

New NIEER Report Examines Social-Emotional Development

It’s an unfortunately familiar scene in some pre-kindergarten classrooms today: out-of-control kids disrupting learning for their peers at least and lashing out with physical violence at most. Unless preschool teachers have the necessary training to deal with this growing trend in behavior problems, a child’s success in school and life can suffer dramatically.

That is the subject of “Promoting Children’s Social and Emotional Development Through Preschool,” a new policy report from the National Institute for Early Education Research. The report says preschoolers who do not receive social-emotional instruction cannot pay attention, remember information on purpose, or function socially in a school environment, making them difficult to manage and often rejected by peers.

The ability to self-regulate emotion is a significant part of a preschooler’s social and emotional development. This includes learning to withstand impulses, maintain focus, and complete tasks even when other more exciting activities are taking place.

Kindergarten teachers report that more than half of their students arrive unprepared to learn, a problem that occurs in part because many preschool teachers lack appropriate training in early childhood development and behavior issues, says Elena Bodrova, a co-author of the brief.

This can result in unrealistic expectations on the part of teachers and erroneous conclusions as to the causes of behavior problems. What’s more, Bodrova says in the “changing culture of childhood,” children often have little or no experience play-
good parenting and good can be compensated for by, but most of those differences tend to be more impulsive, rational process. Some children nothing process, it's a gradual process. Some children tend to be more impulsive, but most of those differences can be compensated for by good parenting and good teaching.”

Furthermore, all children need to be guided in the process, yet another reason preschool teachers must be able to spot opportunities for social and emotional learning and direct activities that encourage growth. Otherwise, children can experience compounding problems that might send them on a downward spiral that is difficult to reverse.

Says the report, “The child who does not have self-regulation at five years of age is the child who cannot follow the teacher’s directions at age six or who cannot plan how to solve a problem at age seven. The child without self-regulation of emotions at age four will not be able to control his temper at five and will have negative peer interactions at age seven.”

To download a copy of “Promoting Children’s Social and Emotional Development Through Preschool,” visit www.nieer.org.

Elena Bodrova, co-author of NIEER’s social-emotional development report says teachers can use three specific strategies to promote social and emotional development in preschoolers:

1. Consider whether class routines support development of self-regulation and eliminate those that don’t. For example, sitting in a large group is difficult for preschoolers and actually teaches the opposite of self-regulation, so minimize large group time.

2. Modify existing routines that do support self-regulation. An example: Instead of giving directions and expecting preschoolers to remember them, have the children repeat the teacher’s instructions to each other.

3. Direct make believe play in a way that helps children practice developing self-regulation skills, such as assigning parts to children and helping them stay in their roles for extended periods of time.

Many Prekindergarten Teachers Woefully Underpaid, Others Lack Required Credentials

The number of states funding preschool has doubled over the last 20 years, and many programs have seen dramatic growth since their inception. That’s a recipe for lagging compensation and qualification of teachers, says Yale’s Walter Gilliam, whose recently completed National Pre-kindergarten Study (NPS) surveyed teachers in more than 3,800 classrooms across the country.

His first of many reports to come from that massive survey is Who’s Teaching Our Youngest Students? The study found that seven out of 10 teachers in state-funded prekindergarten programs earn salaries that leave them below 200 percent of the poverty line.

The study, conducted by Gilliam and Crista M. Marcheseault of the Edward Zigler Center for Child Development and Social Policy at Yale University, questioned 3,898 teachers from 52 statewide prekindergarten systems in 40 states.

Compensation varied significantly, with the highest median hourly wages reported by teachers in Florida ($10.07), New Mexico ($10.96), Hawaii ($12.66), and Massachusetts ($12.95).

Fourteen percent of teachers reported an annual salary below the federal poverty threshold, and 71 percent earned a salary less than 200 percent of the federal poverty threshold, a measure widely regarded as the line below which families are considered low-income.

Nineteen percent of teachers worked an extra job for pay. Of course, there is a connection between teacher pay and credentials. “One has to ask if it makes sense for policymakers to ask pre-K teachers to get a bachelor’s degree when they’re paid less than $20 an hour,” points out NIEER Director Steve Barnett. “If we want pre-K teachers to be professionals, we have to pay them on a public school scale.”

Gilliam asked plenty of other questions, amassing a dataset that, in addition to information on classroom practice, contains details about teacher stress and attitudes and behavioral issues among children who attend state-funded programs. The report, Who’s Teaching Our Youngest Students? is available at http://nieer.org/resources/files/NPSteachers.pdf.
Look Who’s Winning the UPK Race: Tight Budgets Haven’t Stopped the South from Broadening Access

In the decade since Georgia opened its state-funded pre-K program to all 4-year-olds, the southern U.S. has been busy building a reputation for access to public preschool education. If some governors turn new pronouncements into action, that reputation is likely to grow.

To be sure, the trend toward more and bigger state-funded pre-K programs is a national one. But Southern states have experienced real booms in access. Within three years of Georgia launching its program, Oklahoma followed suit with a UPK program offered through public schools. Seven years later, Florida is set to attempt to provide universal access. Scheduled to begin this August, that program illustrates the challenges associated with delivering on the UPK promise with limited funding. (See “A Long Hot Summer in Florida” at right for details.)

Even states without UPK have shown an overall pattern of broadening access despite funding reductions in difficult budget years. North Carolina has shown steady growth in its More at Four program for at-risk children, serving 6 percent of the state’s 4-year-olds. A proposed state lottery promises to deliver funds for future growth. South Carolina’s Half-Day Child Development Program now serves about one-third of the state’s 4-year-olds. And in Texas, the Public School Prekindergarten initiative serves 43 percent of 4-year-olds, making it the third most accessible program in the country. According to NIEER’s most recent State of Preschool yearbook, seven of the eight states with the greatest access to state-funded pre-K are in the South.

Driving this trend is a combination of the struggle to compete and enlightened leadership, thinks Libby Doggett, executive director of the national advocacy organization, Pre-K Now. “It seems to me the South over the last 20 years, or maybe further back, has had to focus on education as a way to compete—globally and with the educated workforces in the Northeast and Northwest,” she says. Doggett tips her hat to forward-looking leaders, like former Governors Jim Hunt (NC) and Zell Miller (GA) and former U.S. Secretary of Education Dick Riley.

Following in their footsteps are Phil Bredesen of Tennessee, Mike Huckabee of Arkansas, and Bill Richardson of New Mexico. Bredesen pushed an initiative to expand Tennessee’s pilot pre-K program with $25 million in lottery proceeds while facing tough budget issues, including a funding crisis for the state’s medical care program. In New Mexico, after a contentious fight in which Richardson threatened to call a special legislative session if he didn’t get $8 million to expand that state’s tiny preschool program, the governor ended up with half that amount. Huckabee’s administration has increased funding to provide broader access and pursued determined efforts to develop quality teachers and classrooms, making Arkansas the only state to meet all 10 of NIEER’s quality benchmarks.

Doggett cites North Carolina, with its public/private Smart Start program, as a state that has led the way in redefining early education to encompass the years from birth to age 5. It’s a concept being adopted in Arizona, Hawaii and South Carolina. Karen Ponder, president of the North Carolina Partnership for Children, credits old fashioned advocacy for raising awareness there. A recent poll conducted by Pre-K Now shows that North Carolinians lead the nation in awareness of early childhood education issues.

The South’s gains on the access side of the ledger have not been uniformly accompanied by progress in program quality. Like the state bearing its name, the Texas Public School Prekindergarten initiative is big. Yet it meets only three of NIEER’s 10 quality benchmarks. The Virginia Preschool Initiative, slated to receive a 52 percent increase in funding, only meets five of the benchmarks. And in Florida, where the new universal program is struggling to get off the ground, it looks as if it will rate less than five on the NIEER scale. Jason Hustedt, the lead researcher for NIEER’s State of Preschool yearbook, applauds the South’s move to open up access but sounds a cautionary note: “Access is important, but state-funded preschools must provide high-quality programs, too.” In other words, take a page from the Arkansas playbook.
A Long Hot Summer in Florida

All the usual debates around preschool quality and access—and some new ones—can be found in the conversation taking place over Florida’s newly established universal prekindergarten program. Chief among them say advocates and providers: too little money (an average of $2,500/child) and only 3 hours per day of classroom time.

Then there are low teacher training requirements and assessments that advocate Roy Miller says will only encourage the “cherry picking” of students since providers can refuse students whose disabilities or behavioral problems would negatively impact the school’s performance. Miller, president of the Tallahassee-based Children’s Campaign, says that’s because the assessments will only measure students’ readiness at the end of the program, rather than assessing their skills before and after.

He says none of this was what Florida voters had in mind when they approved a 2002 constitutional amendment giving every 4-year-old in Florida access to a high-quality pre-K program.

Miller fears the unintended result may be that the pre-K quality that existed before the voter mandate will be compromised in the effort to make it available to all 4-year-olds.

Dave Lawrence, president of The Early Childhood Initiative Foundation and a supporter of the new program, points out that whether space is available this fall for all of the 4-year-olds whose parents want them to attend the program is a “terrible unknown.”

Says Lawrence of the potential space shortage, “No one knows what kind of smoothly running train or train wreck is coming in August. It all depends on who decides to participate.”

One issue that appears in the offing is a fight over church and state. Lawrence says the current constitutional challenge over whether vouchers can be awarded to faith-based schools has implications for the state’s pre-K program, too. He also believes the “cherry-picking” issue will be challenged in court.

As for the teacher qualifications, Lawrence’s Early Childhood Initiative Foundation will continue to push for mandated standards that require bachelor’s degrees with a certification in early education. But it can’t be done overnight, he says. “I am a glass half-full guy. I don’t think when Head Start started it emerged full bloom, or when Georgia started [its program] in 1995 with 8,712 students. Do I wish we were further along? Absolutely. Is it a decent start? Yes.”

Ultimately, the state’s $387.6 million expenditure on voluntary universal pre-K amounts to just six-tenths of a percent of Florida’s overall budget of $63 billion, says Lawrence, of which one million will fund the state’s myriad child care and early education programs.

Still, not everyone is happy with the Legislature’s response to the voter mandate for high-quality preschool for all. Advocate Miller says, “We’re going right back to voter education, to make voters aware of what they asked for and what they got.”

School Readiness Improves in New Jersey

In New Jersey’s Abbott districts, preschoolers are making gains in critical language skills that help prepare them for kindergarten. That’s the news from the state’s Office of Early Childhood Education, which released “Giant Steps for the Littlest Children: Progress in the Sixth Year of the Abbott Preschool Program” on May 18. Among the improvements:

• Enrollment of 3- and 4-year olds is up from 19,000 in the 1999-2000 school year to 39,000 this past year, and projected enrollment this fall is 43,000. That covers more than 80 percent of 3- and 4-year-olds in the Abbott districts.

• The percentage of classrooms scoring in the good to excellent range on annual Early Childhood Environment Rating Scale - Revised (ECERS-R) assessments has risen to nearly 40 percent in 2005, compared to about 13 percent two years ago.

• This year, more than 85 percent of Abbott classrooms scored above the midpoint on the ECERS-R rating scale. In 2002-2003, more than 50 percent had scored below the midpoint.

• On a scale rating literacy skills, 75 percent of classrooms scored above the midpoint, a significant reversal since 2002-2003, when 83 percent scored below the midpoint.
Seattle’s “Whole Community” Effort

prekindergarten classes aren’t required to have a degree or child development certificate. Their yearly prerequisites are 30 hours of training in child development, basic health and safety, and topics like curriculum and instruction, lesson planning, classroom management, child management and literacy.

As a result, Griffin says, “they were taking lots of hours but didn’t have a pathway to a degree. We knew research supports that teachers who have a degree do a better job. [Our goal was to] make sure they were taking the classes and…to create a pathway to a degree.”

By doing so, the teachers would be better prepared to teach and more adept at identifying developmental delays that require early intervention, another advantage of the program. This required someone to sit with each teacher, organize transcripts from previous education and training, and chart a course toward an early childhood education certificate, an associate’s degree or a bachelor’s degree.

Enter Shoreline Community College, which evaluated the teachers’ transcripts and partnered with the city to provide intense theory and practice classes for college credit. Classes are held in the evening at SERF sites, and grant money is used to pay for tuition and books. But the city was concerned that access to a degree program, while a major benefit, would likely go unused without the necessary time to study. So, they built in five hours of weekly release time for the teachers to study, visit the elementary schools and plan lessons. In their absence, an additional teacher, paid for with the grant money, covers their classes.

Shoreline also offers one-on-one coaching to help the teachers apply their newly acquired skills and boost their knowledge in special topic areas like creating culturally and linguistically appropriate lessons, appropriate ways to read aloud, supporting children’s writing, and extending word recognition.

It’s a system that works. When the program began, fewer than five of the 34 SERF-trained teachers had a bachelor’s degree. In the first year, five completed their associate’s degree; another 14 are slated to complete their associates or receive early childhood education certificates this year. As a reward and an incentive to continue, the teachers receive bonuses, first when they complete 12 credits and again when they have 18.

Nina Auerbach, CEO of Child Care Resources, says it’s an expensive, intensive model using a small group of classrooms serving some of the city’s most challenged kids, but she’s sold on it, adding that she believes it would work on a larger scale as well. Funding is the issue, but even if the federal money goes away, the programs involved are “going to [see a] lasting impact, they’ll be in better shape forever, as long as they can hang onto that staff—and even if they don’t, there’s been a change in the culture that’s going to last way beyond the grant.”

Getting Families Behind Literacy

Not surprisingly, SERF’s more-focused training approach translates to better-prepared teachers and students. But that doesn’t guarantee the 250 preschoolers a smooth transition to kindergarten. So in addition to giving tours and counseling families, Matthews also organizes a monthly enrollment night, with staff from the school district’s enrollment services available to walk parents through the often-confusing enrollment process.

A key goal of the SERF program is to get families involved. That’s where the public libraries come in. Each month, preschoolers and their families attend literacy night, where librarian Kim Kopetz-Buttleman conducts an activity related to the night’s topic, offers tips on how best to read aloud, and calls attention to the ways families are already supporting their child’s literacy.

Chance Hunt, youth services coordinator for the Seattle Public Library, says, “We give parents assignments that point out the literacy all around them, on the bus, in the car, on the subway… [places that] continually bathe their children in vocabulary and language opportunities.” Literacy is no easy task for these children and families, and many come into the program with no children’s books of their own. Before the night is through, each child will choose two free books to take home. Spanish-speaking families get books in Spanish as well as English. Librarian Kopetz-Buttleman helps parents understand how storytelling and picture books can improve their child’s language—and every child in the SERF program gets a library card. It’s a souvenir of their time with the program and hopefully their ticket to a successful kindergarten experience. It’s a giant leap but with well-trained teachers, supportive families and an understanding of what lies ahead, kids in Seattle Early Reading First are finding that a comprehensive approach to early childhood education programs is good for everyone.
NAESP recently released a guide to why and how principals should get involved in preschool programs: "Getting the Guidebook". For more information on "Leading Early Childhood Learning Communities: What Principals Should Know and Be Able To Do," visit www.naesp.org or contact NAESP toll-free at 800-386-2377 or 703-684-3345.
Child development specialists and educators have known for years that social and emotional development is an important part of education curriculum and a critical component of a child’s later success in school and life. But a new report by the National Scientific Council on the Developing Child reveals that a child’s early experiences with stress and its physiological response can damage reasoning and critical thinking skills, IQ, language development and social competence.

The report, *Excessive Stress Disrupts the Architecture of the Developing Brain*, released in July, makes the case for quality prekindergarten education by asserting that lower staff turnover in preschools and child care facilities can dramatically reduce stress on young children and improve their learning abilities. A compilation of two decades’ worth of neurological and developmental psychology research, the report tackles the science-policy gap by outlining implications across a range of social policy, including early childhood education.

Jack Shonkoff, National Scientific Council chair and dean of Brandeis University’s Heller School for Social Policy and Management, says that emotional development, social ability and cognitive skills are a reflection of the brain’s inner workings. “If you see a competent child who can do a lot of things, you know the brain is working well,” he says. “Deficits in cognitive, emotional or social skills are signs the brain isn’t working as well.”

To understand the connection between the brain’s structure and its psychology—our thoughts, feelings, learning and behavior patterns—look at the construction that happens during its formative years from birth to age 5. There, the critical foundation for future brain development is being laid, influenced by events in the womb and from the moment of birth.

Like a child playing with blocks, the brain is constantly constructing and deconstructing itself based on our experiences and our exposure to stress. In a fight-or-flight situation, the body triggers a flood of chemicals in the brain that help a child process and respond to a threat. Triggered too often or for long periods, this chemical response begins to erode the brain’s emerging architecture in areas responsible for learning, memory and emotion.

The danger is highest for...

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**Recommended Reading: How To Conquer Childhood Obesity**

There has been no shortage of hand wringing about the epidemic of childhood obesity sweeping the country. Parents, schools and policy leaders seeking solutions to this growing problem would do well to spend some time with *Preventing Childhood Obesity: Health in the Balance*.

The Committee on Prevention of Obesity in Children and Youth from the Institute of Medicine (IOM) at the National Academies developed Preventing Childhood Obesity in response to a call from Congress for an action plan. It’s the result of a lengthy investigation by respected doctors, nutritionists and scientists. They identify factors involved in obesity among youth and the implications for adult health, productivity, and economic outcomes for society.

Perhaps most important is the committee’s 10 recommendations to end the epidemic, including suggestions for the home, schools, corporate groups and media. One chapter sets out an action plan and provides resources for parents, educators and policymakers. For more information, go to www.nap.edu.
Arkansas Tackles Teacher Training with New Math-Science Program

Joins Push to Align Curriculum from Early Education Through Grade 12

In a state that meets all 10 of NIEER’s preschool quality standards benchmarks, you might think Arkansas could rest on its laurels. Not so. Like many states grappling with teacher training and the quality of instruction in state-funded preschool, Arkansas has implemented professional development programs that align its pre-K and K-12 curricula and improve readiness.

“As our statewide public pre-K program expanded, we wanted to be very sure we could hold programs accountable.”

—Kathy Stegall

for the state’s youngest students, even in the most rural areas. And it’s extending a hand to help non-public schools do the same.

One such effort is the math and science professional development program, which is one of four that are or will be required for all teachers in state pre-K programs and will be made available at no cost to providers who don’t receive state money. The other three cover literacy, the state’s early childhood education framework (or early learning guidelines), and social-emotional skills.

Kathy Stegall, program administrator for the Division of Child Care and Early Childhood Education, says implementing the training for state pre-K teachers was important to maintaining the program’s historically high quality in the wake of a $40 million revenue infusion approved last year by the state legislature and a $20 million increase to go into effect in July. “As our statewide public pre-K program expanded very quickly, we wanted to be very sure we could hold programs accountable for what was going on with children working towards school readiness. Teacher training is one of our strategies,” she says.

When the latest funding goes into effect, the state’s Arkansas Better Chance Program and the federally funded Head Start program will serve 65 percent of 3- and 4-year-olds living at or below 200 percent of poverty. Most importantly, what they learn will sync with the state’s learning guidelines for K-12. The division could have stopped there, leaving non-public classrooms out of the equation. It didn’t. Says Stegall, the decision to make the math-science training available to any of the state’s licensed or registered child care centers was recognition that having high-quality preschool—no matter what the setting—was good for the whole state, and not just in the most populated areas. It’s also an important step toward assuring that public and private programs can exist side by side without being out of sync with each other.

“This is a very rural state and we had to look at ways to reach out to those rural communities and be sure that there were high-quality programs and training throughout the state….we viewed it as a statewide issue, rather than a regional one,” she said.

Consistency was an issue too, since the training takes place at universities, community colleges, local churches or whatever venue is most accessible to the teachers. Though the setting may change, certified trainers always instruct the course.

As with any new program, tweaking is inevitable. The math-science pilot identified areas for improvement, including beefing up the theory portion of the trainer’s guide, strengthening the connections between the curriculum training and the state’s benchmarks, and providing more direction on integrating math and science into every activity throughout the day. When the revised program rolls out in January, it will also include pre- and post-testing of students to see what gains, if any, have been made as a result of improved teacher training.

Dr. Vincent L. Ferrandino

>> CONTINUED FROM PAGE 9 for the children in their schools or their programs, but they haven’t taken on a broader role on these issues. We’re asking them to step out, use their platform and their position of respect within the community. They’re viewed as experts in their chosen field and should be speaking on these issues.

Q: Will they?
A: We’re finding more and more principals are becoming involved because they see the value for society as a whole and also for the children coming into their schools. This advocacy focuses on what’s best for kids, and I think principals are willing to do this.

Q: What’s the next logical step for this effort?
A: We’re hoping to get [the guidebook] in the hands of policymakers and decision makers, as well as those who prepare principals in higher education settings. We’re trying to broaden the context for our principals to think of themselves as leaders of “learning communities” and not just as principals of schools. We’re hoping that the higher education community will begin to embrace that philosophy.
How Stress Affects the Developing Brain

children who lack stable relationships and are exposed to violence in their neighborhoods or homes. Often, their first encounter with a stable relationship comes in preschool, but constant staff changes, overcrowded classrooms or teachers who don’t foster nurturing relationships can produce a high stress level for preschoolers already struggling with the fallout from their home lives.

“This research clearly shows the profound impact that the quality of a preschool classroom can have on a child’s lifelong learning and development,” says Steven Barnett, NIEER’s director. “It’s yet another reason to ensure that preschool teachers have the education and training to create an environment where children feel safe and nurtured.”

Shonkoff agrees, adding that teachers need to understand the delicate interplay of brain structure and psychology, not only in fostering early literacy and problem-solving skills but also in early social and emotional development. To be sure, nature is at work alongside nurture in the formation our brains, and genes play a significant role in how well a child adapts to stress. No two children will react the same to the same stressful event.

So how much is too much? At home and in classrooms, children experience what the report calls positive stress, such as being told no or that it’s time to nap. These events are key to children learning to cope in difficult situations—both as young children and adults. Exposure to abuse or violence creates what researchers call “toxic stress,” which refers to the event causing the stress as well as the child’s inability to deal with it.

The good news is that the brain has an incredible ability to rewire itself. Far from being doomed to a life of academic and social failure, children who have positive relationships where they feel safe and nurtured—including those in the classroom—can actually recover from some of the damage done by stress. Researchers hypothesize this reversal may signal that the brain is finding other ways to function. In the same way exercise builds additional blood vessels in the heart, protecting it from a heart attack, nurturing relationships cause a similar effect in the brain by building new neural pathways that enhance a child’s behavioral and intellectual development.

The research also suggests that “youngsters who must manage being with large groups of children for many hours each day experience rising levels of the stress hormone cortisol as the day progresses. By afternoon, toddlers and preschoolers, especially those in large centers and those receiving poorer-quality care, have stress hormone levels often double or triple what they show at home on non-child care days.” This finding bolsters the argument for appropriate class sizes, an issue in many states where standards are weak.

“Preschool should be a stable, secure place where children can learn and grow surrounded by adults who care about their well-being, and that can’t happen when classrooms are overcrowded and teachers can’t devote enough one-on-one time to each child,” says Barnett. For some children, preschool is a lifeline that calms a chaotic world and offers nurturing absent in their lives. Shonkoff says, “Supportive relationships that have a positive influence on development can come from all types of places. When stable, supportive relationships are not available in the family, the nature of the relationships provided in a preschool program can make a significant difference between healthy and unhealthy outcomes.”

The study of child development is exploding as science and new technology reveal how our brains work. But science is more than just one study or the latest piece of research. It is the totality of work that spans years, making continuing education critical for early childhood educators and the health of their students’ budding minds.