



# Making the Grade:

## Making the Case for Well-educated, Well-trained Teaching Staff in Early Care and Education

The last quarter century of research on brain development suggests that the nurturing and learning experiences available in the first few years play a strong role in shaping a child's development. Babies are born with a remarkable intrinsic ability to learn. The foundation for a child's intellect, personality and skills is established in the first five years. Today, a vast majority of Wisconsin's children under the age of six have all parents in the workforce, and early care and education have become a routine part of many children's young lives.

A growing body of scientific evidence indicates that investing in the education of our youngest learners may be one of the most promising ways to prepare children for school and strengthen the future economic position of states and the nation. A series of longitudinal studies have established that high quality early education is a cost-effective investment, yielding the highest returns when children from disadvantaged backgrounds are targeted. The largest expense in any early care and education program, and the one that research has shown has the most significant impact, is human resources: the adults who guide and teach young children.

This paper is the second in a series of Quality Matters policy briefs that explore the elements of high quality early care and education. It examines educational qualifications of teachers as a component of quality, and explores the benefits gained from well-educated early childhood teachers.



## Research on Staff Qualifications in Early Care and Education

What do we know about staff quality in early care and education settings and the link to child outcomes and school readiness?

To address this question, we reviewed research from a variety of sources, including the National Research Council's examination of a quarter century of research, some of the most extensive national studies, longitudinal intervention studies, and the work of the National Institute on Early Education Research. The research findings are strikingly similar. All of these studies conclude that the education of the teachers and caregivers is a key ingredient in the quality of the program, and contributes to important outcomes for children.

Why do we think teacher qualifications are the key to quality? Researchers have found that education and training of the adults who guide children's development in out-of-home settings changes the way they relate to children. They are more responsive to children, provide active learning experiences, interact more, focus on each child's progress, and intentionally design their programs to enhance healthy development and learning.

It makes sense to expect that better educated teachers have more knowledge and skills to individualize lesson plans and analyze and solve problems. Better-educated teachers are likely to expose children to a richer vocabulary and to provide more stimulating learning activities and environments.

Most studies have found that teachers with two- or four-year degrees, combined with specialized training in early childhood development, provide significantly higher levels of quality for children in their care, as measured by positive interactions with children and stimulating learning environments.



## Findings of the National Research Council: Professional Qualifications of Teachers is a Key to Quality

The National Academy of Sciences was established by Congress to advise the federal government on scientific and technical matters. In 2001 the Academy's National Research Council released a report, *Eager to Learn: Educating Our Preschoolers*, that specifically addresses questions about the importance of staff qualifications in early care and education. The report was the product of a three-year study by a committee of 17 experts appointed by the Council.

The research findings summarized in this report show that 2- to 5-year-old children are more capable learners than had been imagined.

—National Research Council, 2001

Drawing on decades of research, the Council concluded that:

- **Teacher-child relationships foster learning:** The responsive relationship between early childhood teachers and children has clear influence on children's disposition to learn and their emerging abilities, affecting "social competence and school achievement."
- **Professional development of teachers is a key to quality:** "The professional development of teachers is related to the quality of early childhood programs, and program quality predicts developmental outcomes for children." The Council found a strong relationship between the number of years of education and training and the appropriateness of a teacher's classroom behavior.



At the heart of the effort to promote quality preschool, from the committee's perspective, is a substantial investment in the education and training of preschool teachers.

—National Research Council, 2001

The Council concluded that early childhood programs found to be highly effective in the United States and abroad have well-educated teachers trained and encouraged to reflect on their practices and on the responsiveness of children.

## Other Research Findings: Strong Link between Teacher Education and Quality

### The Cost, Quality, and Child Outcomes Study

Researchers from four universities in four states studied the characteristics of a group of child care programs and followed 826 children from 183 classrooms to gather information on program quality and child outcomes.

A follow-up analysis of the data led the researchers to conclude that the quality of child care was related to both formal education levels and specialized training in early childhood development, and that teacher compensation was closely linked to the quality of services provided. The analysis also found that high-quality child care settings positively predict children's performance well into their school years, with greater benefits for children at risk of school failure.

Our research indicated that the quality of child care was related to both the formal education levels and the specialized early childhood training of the classroom teachers.

—Cost, Quality, and Child Outcomes Study

### National Institute of Child Health and Human Development Study

The National Institute of Child Health and Human Development (NICHD) conducted probably the most com-



prehensive study of child care ever undertaken in the United States, following more than 1,000 children across care and education settings from infancy in 1991 to their high school years. The study found that across ages and types of care, positive caregiving was more likely when caregivers were better educated, focused on the each child’s development, and had more experience in child care. This study, like the others reviewed for this paper, found that quality of child care was related to both formal education and specialized early childhood training for teachers. A related analysis of the data from the study found that more highly educated or trained caregivers have been found to improve children’s school readiness and language comprehension scores.

**Caregivers with higher education levels engaged in more positive caregiving and, in turn, the children they cared for showed better outcomes.**

—*National Institute of Child Health and Human Development*

### National Institute for Early Education Research

The National Institute for Early Education Research (NIEER), directed by economist Dr. Steven Barnett, reports that a preponderance of research studies conclude that education levels of preschool teachers and specialized training in early childhood education predicts teaching quality and children’s learning and development, citing 14 key research studies in child care, Head Start, and pre-kindergarten settings. His review of the research shows evidence that quality is higher in programs where more teachers have at least a four-year degree. The quality standards set by NIEER for pre-kindergarten teacher qualifications are a four-year degree and specialized preparation in the education of preschool children.

**Better-educated preschool teachers with specialized training are more effective.**

—*National Institute for Early Education Research*

### Evidence from Longitudinal Research on Intervention Programs

A report written by Ellen Galinsky for the Committee for Economic Development analyzed three famous longitudinal studies that tracked the impact of high-quality early education programs on at-risk children into adulthood. The three studies—the High/Scope Perry Preschool Project, the Abecedarian Project, and the Chicago Child-Parent Centers—all showed consistent positive economic benefits that outweigh the program costs. The three high-quality programs led to improved early learning and school readiness, as well as long-term positive outcomes, such as higher earnings and lower levels of incarceration. All three of these studies had well-educated, well-trained and well-compensated teachers.

The prominent researchers interviewed by Galinsky believe that the ongoing individual relationships teachers developed with the children were central to learning and development.





### Wisconsin Child Care Research Partnership

The Wisconsin Child Care Research Partnership, housed at the University of Wisconsin-Extension, found from its research in Wisconsin child care programs that caregivers with more education had significantly higher-quality interaction with children than caregivers with less education.

After years of study of Wisconsin child care centers and family child care programs that included hundreds of observations and surveys, the researchers found that the educational qualifications of staff were persistently linked to dozens of other quality measures. The researchers concluded that the skills involved in organizing for their own education appear to translate into teaching skills.



### Conclusions and Issues from the Research

A large body of research unequivocally demonstrates a solid relationship between teacher education and training and the quality of overall early childhood program settings and child outcomes. While the research indicates a strong connection between teacher/caregiver education and the quality of early childhood settings, there is an emerging debate about just how much education is necessary.

In state preschool programs, a little more than half of states require teachers to have bachelor's degrees, and 35 states require specialized teacher training. Congress is currently debating the relative value of two- and four-year college degrees for Head Start teachers.

Both public preschool programs and Head Start programs are primarily publicly funded programs. The situation is quite different in private child care settings. Only a small fraction of center-based teachers and licensed family child care providers have four-year degrees, and for most a high school diploma is the highest degree. Given the research findings on the importance of well-prepared teachers, the wide range of teacher qualifications across early childhood settings is cause for concern.

### Implications for Public Policy in Wisconsin

The research paints a clear picture: Well-educated, well-trained teachers are key to providing the kind of high-quality early care and education that help children become ready for school. Wisconsin has much to be proud of in early care and education, through its efforts to:

- make 4-year-old kindergarten available in two-thirds of school districts;
- provide affordable child care access to low-income working families;
- deliver enhanced services to young children with disabilities and their families through its Birth to 3 Intervention Program and Special Education services to children ages 3-5; and
- meet the early development, education, health and nutrition needs of children in poverty through Head Start and Early Head Start.

But what do we know of the quality of these services? Since the research evidence tells us that early childhood



education investments pay off in positive child outcomes only if the programs meet quality standards, including well-qualified staff, then the quality of Wisconsin's programs should be a major public policy concern.

### Educational Qualifications of Wisconsin's Early Childhood Workforce

The qualifications of lead teachers (teachers/providers with lead responsibility for a group of children) in early care and education settings in Wisconsin vary dramatically. Virtually all public school and special education preschool teachers have bachelor's degrees, and about 70 percent of Head Start teachers have at least a two-year degree. But fewer than 30 percent of child care center teachers and licensed family child care providers have two-year degrees or more.

As might be expected, wages also vary widely, with child care wages the lowest, Head Start wages somewhat higher than those of child care center teachers, and public school

wages nearly double those of Head Start wages. Wisconsin child care center teacher wages averaged less than \$9.00 per hour in 2004, and real wages (adjusted for inflation) have not increased appreciably since 1980. Table 1 shows estimates of the educational qualifications of Wisconsin's early childhood workforce. It also estimates how many Wisconsin children under age 5 are in each of the major types of settings. These numbers include duplicate counts, since many children are in more than one setting in a typical week, often necessary to cover the work schedules of parents, or because many families can afford only limited hours in more formal settings. The Urban Institute's 2001 study of Wisconsin child care found that 37% of children in non parental care were regularly in two or more early childhood out-of-home settings.

*Note: The number of children in child care setting may not be accurate, because the numbers are estimated based on capacity data—no reliable data exist about how many children of what ages are enrolled.*

**Table 1: Teacher or Special Educator Qualifications by Early Care and Education (ECE) Settings**

| Teacher or educator in ECE setting  | % of Teachers with 4-year-degrees | % of Teachers with 2- or 4-year Degree | Estimated # children under age 5 served (duplicated counts) | Children Served % of Total |
|---|-----------------------------------|--|---|----------------------------|
| Certified small family child care provider  | Unknown                           | Unknown                                | 17,729  | 8%                         |
| Family child care provider in a licensed family child care center   | 6%                                | 24%                                    | 21,814  | 10%                        |
| Child care teacher in a licensed child care center  | 14%                               | 29%                                    | 119,234   | 54%                        |
| Head Start teacher  | 45%                               | 85%                                    | 14,954  | 7%                         |
| Teacher in public school 4K and special education for ages 3-5; Special educator in Birth to 3 Intervention program | 99-100%                           | 99-100%                                | 45,085  | 21%                        |
|   |                                   |  | 218,816   | 100%                       |



**Table 2: Teacher Educational Requirements by ECE Setting**

| <b>Teacher or educator in ECE Setting</b>  | <b>Teacher Requirements</b>  |
|--|--|
| Certified family child care provider   | Level I “regular”: at least 15 hours of child care training<br>Level II “provisional”: no requirement, except training on sudden infant death syndrome   |
| Family child care provider in licensed family child care center  | 40 hours or 3 credits of early childhood training<br>Additional 10 hours training on infants and toddlers, if served   |
| Child care teacher in licensed child care center   | 2 courses in early childhood education<br>Additional 10 hours training on infants and toddlers, if served  |
| Head Start teacher   | 50% of teachers nationally must have a 2-year Associate’s Degree or higher in early childhood education or an advanced degree in a related field with experience teaching<br>Staff working with infants and toddlers must obtain a Child Development Associate (CDA) credential or equivalent. |
| Teacher in 4-year-old kindergarten in public school (including child care and Head Start participating as community approach site) | Bachelor’s degree and teacher license for early childhood level  |
| Special education for ages 3-5 in public school  | Bachelor’s degree and appropriate early childhood special education license  |
| Birth to 3 special instructors   | Bachelor’s degree and early childhood special educator license   |



The variation in educational levels and wages shown in Table 1 appears to be highly related to the way each of these early childhood programs are regulated and financed. Table 2 shows the requirements for teachers in different program settings.

Even though thousands of young children spend significant time in each of these settings, the teacher requirements vary dramatically, from 40 hours of training to a bachelor’s degree.

Regulation levels and teacher qualifications seem to be based largely on whether a program is public or private. Child care, which operates primarily in the private sector, has the lowest requirements and the lowest education levels of staff. Public schools are publicly operated and financed, and set high educational standards for the teachers they hire, and pay commensurate salaries and benefits, usually negotiated by teacher unions. Head Start is part public, part private -- financed publicly, but operated largely in the private sector.



The data show that nearly three-quarters of children under age 5 in organized settings are served in child care programs, where teacher qualifications tend to be comparatively low. While public policy discussions about school readiness and early education often focus on public school pre-kindergarten programs and Head Start, child care is in fact the setting where the vast majority of young children are spending the most time.

## Efforts to Increase Teacher Qualifications

Efforts to increase teacher qualifications in early care and education demonstrate several different approaches, triggered by various goals and motivations, as illustrated by the following examples.

### T.E.A.C.H. Early Childhood: Scholarships and Wage Supplements

The T.E.A.C.H. Early Childhood® Project, established in North Carolina in 1990, gives scholarships to child care workers to complete course work in early childhood education and increase their compensation. The program was developed to address the low levels of education, poor compensation, and high turnover in the early childhood workforce, particularly in child care settings. T.E.A.C.H. scholarships link continuing education with increased compensation and require that recipients and their sponsoring child care programs share in the cost. T.E.A.C.H. programs are now (as of fall 2007) operating in 21 states, including Wisconsin.

While the T.E.A.C.H. program helps child care workers increase their educational credentials, the WAGES™ program complements it by rewarding teachers in the field that have already met certain educational levels. The goals of WAGE\$ are to keep qualified teachers in the field and provide incentives for staff to seek additional education. The Child Care WAGE\$ Project provides education-based salary supplements to low-paid teachers, directors and family child care providers working with children between the ages of 0 and 5. The project is designed to provide preschool children more stable relationships with better-educated teachers by rewarding teacher education and continuity of care. The two programs (T.E.A.C.H. and WAGE\$) appear to have played a strong role in the transformation of North Carolina's early childhood workforce. North Carolina reports that in 1993 less than 20 percent of

the state's child care teachers had any post-high school education. Fourteen years later, with support from the T.E.A.C.H. program, a quality rating system, and its Smart Start program, more than 80 percent of the state's child care teachers have college level education.

**With the vision and support of TEACH™ Early Childhood Scholarship Program, more than 80 percent of child care teachers in North Carolina have college level education. Through WAGES™ and other wage benefit programs, our teachers are better paid and more than half have health benefits.**

—Karen Ponder, President, North Carolina Smart Start

Wisconsin's T.E.A.C.H. Early Childhood® Scholarship program is administered by the Wisconsin Early Childhood Association, under contract from the Wisconsin Department of Workforce Development. An evaluation of the T.E.A.C.H. program by the Wisconsin Child Care Research Partnership in 2003 found that:

- Over 2,000 scholarships had been awarded
- 84% of recipients worked in child care programs serving low-income children funded by the state child care subsidy program or Head Start
- A significant portion of the educational credits earned by T.E.A.C.H. recipients would not have been earned without the scholarships
- Teachers participating in T.E.A.C.H. completed on average three times the education required by licensing rules
- T.E.A.C.H. recipients received wage increases more than double the average for child care workers
- Job turnover for T.E.A.C.H. recipients is less than third the turnover rate for Wisconsin child care teachers.

Wisconsin's T.E.A.C.H. Early Childhood® program, combined with its R.E.WA.R.D.™ program, which like North Carolina's WAGE\$ program provides wage supplements to workers with specified educational qualifications who stay in the field, has helped hundreds of child care workers improve their educational qualifications, increase their compensation, and stay in the early childhood workforce. As of mid-2007 Wisconsin's T.E.A.C.H. program has funded scholarships for 3,281 early care and education staff from 897 programs who earned over 50,000 college credits. The R.E.WA.R.D.™ program has provided wage



stipends to 4,981 individuals who meet educational criteria. The average R.E.WA.R.D.<sup>™</sup> recipient has 13.2 years of experience in the field.

While the T.E.A.C.H. program ensures wage increase or a bonus on completion of a scholarship, and R.E.WA.R.D.<sup>™</sup> provides a stipend to well-qualified workers who stay in the early childhood field, the current fiscal incentives are modest. There may be some limits to the number of early childhood workers willing to both work and go to school without more significant financial payoffs for individual teachers and the programs that invest in them. However, it is clear from Wisconsin's experience that child care scholarship and wage supplement programs play a significant role in increasing the quality of the early childhood workforce.

#### **Military Model: A Focus on Staff Compensation and Training**

The U.S. military's transformation of its child care system was triggered by an investigation by the General Accounting Office and Congressional hearings that found serious problems with the quality of military child care. The Military Child Care Act of 1989 mandated improvements to the military child care system, and now the Department of Defense runs a system that many see as a model for the nation.

The military child care system, which serves over 200,000 children at over 300 locations, offers a systematic approach to high-quality, affordable child care, according to a report by the National Women's Law Center.

A key element of the military's reform is its emphasis on increasing staff compensation and training. Based on requirements set in the Military Child Care Act, the Department of Defense linked wages to training levels, developed a comprehensive training program, and hired training and curriculum specialists to ensure quality control. A RAND study concluded that the training and compensation changes improved staff quality and helped the program achieve the goals of a better-trained and more stable workforce.

The military's systematic implementation of a staff training and compensation system demonstrates that with clear mandates and resources, an effective system to develop and retain a qualified workforce can be implemented on a large scale.

**Training and education are integral parts of the MCCS (Military Child Care System)—not just for a few caregivers, but for all. Child care workers are given the tools to perform their jobs in a competent and professional manner, and they are rewarded for their knowledge and expertise through systematic pay increases.**

*—The Urban Institute, Improving Child Care Quality: A Comparison of Military and Civilian Approaches, 2003.*

#### **Florida's Changes in Licensing Requirements: Increased Teacher Education**

In the early 1990s Florida measured the impact of two regulatory changes in child care centers: increased teacher education and more rigorous staff-to-child ratio requirements. The state wanted to find out whether regulatory changes affected the quality of the programs and children's outcomes.

The study, which was identified by the U.S. General Accounting Office as one of the few state studies using a methodology sufficient to produce conclusive findings, found that:







(1) increased teacher education and staff-child ratio requirements significantly contributed to a number of positive outcomes in children's development in 1994 and continue to improve in 1996; (2) teachers with an advanced education (associate's degree or higher) had the highest scores in terms of children's development and classroom quality; and (3) increased staff education and more rigorous ratio requirements did not have a marked negative impact on the child care marketplace, nor did requirements significantly affect consumer costs during the 1992-96 period.

Florida's experience demonstrates that increasing required educational qualifications through a regulatory mechanism can lead to higher quality without serious disruptions to private sector services. However, regulatory change can be difficult to achieve politically because of the increased costs involved for regulated programs when standards are raised.

### **New Jersey: Transforming Preschool Teacher Qualifications**

New Jersey undertook a major effort to provide high-quality preschool services for all 3- and 4-year old children in its 30 poorest school districts (called "Abbott Districts"). The effort was ordered in the unprecedented *Abbott vs. Burke* decisions by the Supreme Court of New Jersey, which ruled that regardless of setting, all preschool-age children in publicly funded preschools should be taught by a certified teacher. New Jersey launched a project to ensure that all preschool teachers had a both a bachelor's degree in early education and teacher certification by 2004.

Because a large percentage of New Jersey's publicly funded preschool programs were operated in private child care settings and Head Start programs, where most teachers did not have either a four-year degree or a teaching credential, the task confronting the Abbott districts was monumental. At the time of the court decision in 2000, 82 percent of the teachers were in Head Start and private preschools and child care programs, and only 15 percent of them met the qualification requirements. Furthermore, they had only four years to comply with the court mandate for over 1,600 teachers.

Due to the pressures and supports mandated by the New Jersey Supreme Court, about 90 percent of the teachers in the Abbott districts attained their BA and were at least provisionally certified by 2004. An unintended con-

sequence of New Jersey's experience identified by researchers is that once teachers in private child care and Head Start programs increased their qualifications, many planned to leave those settings for public school positions where pay and benefits were higher.

**This study demonstrates that as a result of the pressure and supports mandated by the New Jersey Supreme Court's decisions, approximately 90% of the teachers in the Abbott districts will have attained their baccalaureate degree and be at least provisionally certified by 2004. This is an extraordinary accomplishment considering that only 15 percent of teachers in private settings had a BA in early childhood in 2000 when the Court issued its mandate.**

—*Center for Early Childhood Leadership, National-Louis University*

New Jersey's experience tells us that with a clear goal and resources, the existing early childhood workforce can be transformed in a short period of time, but that as long as there is significant discrepancy in wages across the early care and education landscape, qualified teachers will move to where they are rewarded for their qualifications by higher pay and benefits.

### **Head Start Teacher Upgrades**

The national Head Start program has in recent years focused on enhancing teacher qualifications in an effort to increase the school readiness of its target group, children in poverty. The 1998 Head Start Act mandated that 50 percent of all Head Start teachers nationwide have a minimum of an associate degree in early childhood education or a related field by September 30, 2003.

According to a report from the General Accounting Office, Head Start met the mandate, with 52 percent of teachers achieving the goal. Head Start grantees had received additional funding to help teachers meet the goal set, and were supported by quality improvement centers and technical assistance. Head Start officials support on-site technical assistance and mentoring to ensure that new knowledge in integrated into classroom practice.

This year federal legislation is under consideration that would set a higher goal for 2013: 50 percent of center-



based Head Start teachers in each state would need to have a bachelor's degree in early childhood education (or a related area).

The Head Start experience demonstrates a national recognition that teacher qualifications are essential to program quality and school readiness, and that mandates, with resources, can quickly upgrade the qualifications of early childhood teachers.

### Possible Public Policy Focus for Wisconsin

Failure to address the qualifications of our early care and education teachers is a lost opportunity to even the playing field for Wisconsin's children, regardless of economic status. In recent testimony before the Joint Economic Committee in Washington, Nobel Laureate economist James Heckman concluded from his research that investing in early education for disadvantaged children is a high-return investment that promotes success in school, reduces crime, promotes workforce productivity, and reduces teenage pregnancy.

Like other states across the country, Wisconsin has explored ways to ensure high-quality early learning for all its children, often with a particular focus on those most at risk of school failure. This report has pointed to several factors that may need to be considered in any effective approach to assuring that preschool children have qualified teachers:

- Research evidence: The research evidence strongly

links qualified teachers/providers to high quality programs and positive child outcomes.

- Most children do not have well-qualified teachers: Most children ages 0-5 are served in private child care settings, where teacher/provider qualifications and compensation are lowest. If teacher qualifications are a key ingredient for early learning and school readiness, special attention must be paid to child care.
- Teacher education requirements: Teacher requirements may be the key to assuring early learning experiences that prepare children for school.
- Qualifications are linked to compensation: Increased education may need to be linked to higher compensation if qualified teachers are to be available and retained across early childhood settings, since more qualified teachers move to where higher salaries are paid. Private child care and preschool settings can, in effect, become the minor leagues for public schools--once teachers increase their educational qualifications, they leave for higher salaries and benefits.

If the educational level and expertise of teachers is a key to quality, Wisconsin officials and advocates should consider these options:

- 1. Raising Regulatory Requirements:** Wisconsin could take a look at regulatory requirements across the early care and education landscape, and consider where educational qualifications could be increased. This may be easier to accomplish in programs that are publicly operated or funded (like public schools or Head Start) than in the private sector child care arena, where regulations are not usually linked to financial resources. However, gradually raising education requirements in child care licensing standards may be feasible.

Another approach to raising requirements for child care would be to establish higher standards attached to funding. Wisconsin provides over \$300 million in payment to regulated child care providers who serve low-income working families through the Wisconsin Shares child care subsidy program. Many states have linked higher payments to higher staff qualifications and other quality indicators. Wisconsin could consider higher baseline staff education requirements as a funding standard. It is particularly appealing to focus on improving teacher quality for the children funded through Wisconsin Shares, since children from low-income families are at higher risk of school failure.





**2. Scholarships and Wage Supplements:** Wisconsin could increase its support of scholarships and wage supplements to help early childhood teachers, especially those in child care settings, increase their educational qualifications. Scholarships need to be linked to higher compensation and better benefits in order to retain qualified teachers. Options in this area could also include student loan forgiveness for those who go on to teach in early childhood settings.

**3. Incentives:** Wisconsin could look at a range of fiscal incentives to encourage increased teacher qualifications. Especially in the large private child care market, incentives may be preferable to mandates. One option might be to pay higher rates or bonuses to programs participating in the Wisconsin Shares program if teachers meet higher educational levels.

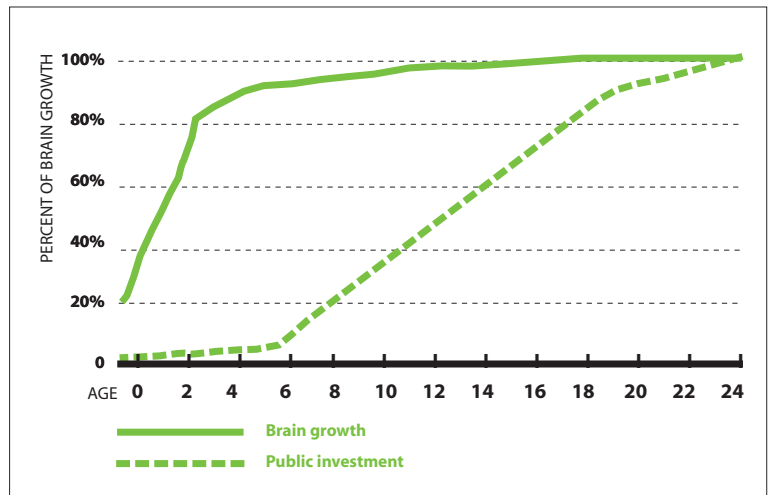
**4. A Professional Development System:** Wisconsin could develop a statewide early childhood professional development system, offering and coordinating courses and training sessions, overseeing on-site technical assistance, promoting needed continuing education, and tracking staff trends across early care and education settings. Several elements of such a system already exist, but coverage is not statewide and the services are not well-coordinated.

In the last quarter century, scientific evidence has proliferated about the importance of the first five years of life. The foundation for a child's personality and learning is established during those years, and gaps in development are difficult to fill. With the majority of Wisconsin's young children spending significant amounts of time in early care and education settings prior to school, a focus on the teachers and providers who care for and teach them may be increasingly important to their success in school and life, and to our future state workforce.

The graph on this page compares the age trajectory of brain development with that of public investment. It is striking that while 85 percent of a child's core brain structure is formed by age 5, less than 4 percent of public investment in education and development has occurred by that time.

A strong case can be made for investing in early care and education, with an emphasis on the qualifications of the teachers and child care providers who are nurturing and educating our youngest children at the most crucial phases of their development.

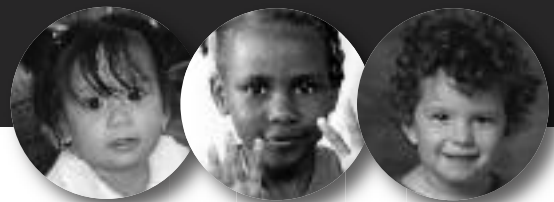
### Brain Growth and Public Investment



Source: *Early Learning Left Out, Voices for America's Children and the Child and Family Policy Center, 2004.*

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<sup>11</sup> Wisconsin Council on Children and Families & the Wisconsin School Readiness Indicators Initiative Steering Committee. (2003). *Wisconsin School Readiness Indicator Initiative: The Status of School Readiness Indicators in Wisconsin*.

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<sup>13</sup> Teacher/provider educational qualifications data from Wisconsin Department of Public Instruction, Wisconsin Head Start Association, Wisconsin Department of Health and Family Services, and the Wisconsin Child Care Research Partnership (UW-Extension).

<sup>14</sup> Numbers for 4K are actual 2006 counts from the Department of Public Instruction. Head Start numbers are from the Wisconsin Head Start Association for 2005-06. The number of children under age 5 in licensed child care was estimated using estimated overall enrollment in licensed child care programs as of 12/06 from the Department of Health and Family Services, and assuming that 60% of those children were under age 5. Special education numbers came from the Department of Public Instruction and the Department of Health and Family Services. Overall, these numbers are duplicative, since a significant percentage of children (estimated at 37% by the Urban Institute) are served in multiple settings.

<sup>15</sup> Snyder, K. & Adams, G. (2001). *State Child Care Profile for Children with Employed Mothers: Wisconsin*. Washington, D.C.: The Urban Institute.

<sup>16</sup> Website, Child Care Services Association. T.E.A.C.H. Early Childhood Project: <http://www.childcareservices.org/ps/teach.html>

<sup>17</sup> Ponder, K. (2007). *Smart Start at Work Here* magazine. Winter 2007 issue.

<sup>18</sup> Adams, D., Bierbrauer, J., Edie, D., Riley, D., & Roach, M. (2003). Wisconsin Child Care Research Partnership. T.E.A.C.H. Early Childhood® WISCONSIN Evaluation Report (August 1999- June 2003). Madison, WI: University of Wisconsin-Extension.

<sup>19</sup> Data from Wisconsin Early Childhood Association, 2007.

<sup>20</sup> Campbell, N.C., Appelbaum, J.C., Martinson, K., & Martin, E. (2000) *Be All That We Can Be: Lessons from the Military for Improv-*

*ing our Nation's Child Care System*. Washington, D.C.: National Women's Law Center.

<sup>21</sup> Zellman, G.L. & Johansen, A.S. (1998). *Examining the Implementation and Outcomes of the Military Child Care Act of 1989*. RAND National Defense Research Institute.

<sup>22</sup> Ryan, S. & Ackerman, D.J. (2004). *Getting qualified: A report on the efforts of preschool teachers in New Jersey's Abbott districts to improve their qualifications*. New Brunswick, NJ: National Institute for Early Education Research.

<sup>23</sup> Heckman, J. *Investing in Disadvantaged Young Children is Good Economics and Good Public Policy*. Testimony before the Joint Economic Committee, Washington, D.C. June 23, 2007.

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