DOCUMENT RESUME

ED 437 194 PS 028 176

TITLE	Are Our Children Ready To Learn? Hearing of the Committee on Labor and Human Resources. United States Senate, One Hundred Fifth Congress, Second Session on Examining Early Childhood Education and Related Services.
INSTITUTION	Congress of the U.S., Washington, DC. Senate Committee on Labor and Human Resources.
REPORT NO	Senate-Hrg-105-772
ISBN	ISBN-0-16-057946-5
PUB DATE	1998-12-04
NOTE	78p.
AVAILABLE FROM	U.S. Government Printing Office, Superintendent of Documents, Congressional Sales Office, Washington, DC 20402.
PUB TYPE	Legal/Legislative/Regulatory Materials (090)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Academic Achievement; Accreditation (Institutions); Benchmarking; Child Caregivers; Day Care; Early Childhood Education; Hearings; *Learning Readiness; Preschool Teachers; Research Needs; *School Readiness; Teacher Education; Teacher Qualifications; *Young Children
IDENTIFIERS	Caregiver Qualifications; Caregiver Training; Congress 105th; Day Care Quality; Goals 2000; Indicators

ABSTRACT

These hearing transcripts present testimony before the Committee on Labor and Human Resources of the 105th Congress on early childhood education and related services. Participants provided different perspectives on early education, focusing on the academic achievement of American students, especially in comparison to students in other countries; the importance of early childhood longitudinal studies; the role of child care centers; and improving early childhood educators' qualifications. Speakers included Senators James Jeffords (Vermont), Tim Hutchinson (Arkansas), Susan Collins (Maine), and Jack Reed (Rhode Island). Providing expert testimony were the commissioner of the National Center for Education Statistics and the executive director of the Child Care Action Campaign. Witnesses indicated that basic measures from the National Household Education Survey document tremendous variation in the skills children bring to kindergarten. Studies of child care in the United States report that the vast majority of centers provide poor to mediocre care. One participant compared U.S. child care programs to early education programs in France, noting differences in caregiver qualifications and compensation, as well as other programmatic differences. This witness also recommended accelerating the move toward universal prekindergarten programming and increasing accreditation efforts. A report on data needs for early childhood development and learning readiness is appended. (KB)

S. HRG. 105–772

ARE OUR CHILDREN READY TO LEARN?

HEARING

OF THE

COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE

ONE HUNDRED FIFTH CONGRESS

SECOND SESSION

ON

EXAMINING EARLY CHILDHOOD EDUCATION AND RELATED SERVICES

DECEMBER 4, 1998

Printed for the use of the Committee on Labor and Human Resources

U.S. GOVERNMENT PRINTING OFFICE
52–734 CC WASHINGTON : 1999

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-057946-5

COMMITTEE ON LABOR AND HUMAN RESOURCES

JAMES M. JEFFORDS, Vermont, *Chairman*

DAN COATS, Indiana
JUDD GREGG, New Hampshire
BILL FRIST, Tennessee
MIKE DeWINE, Ohio
MICHAEL B. ENZI, Wyoming
TIM HUTCHINSON, Arkansas
SUSAN M. COLLINS, Maine
JOHN W. WARNER, Virginia
MITCH McCONNELL, Kentucky

EDWARD M. KENNEDY, Massachusetts
CHRISTOPHER J. DODD, Connecticut
TOM HARKIN, Iowa
BARBARA A. MIKULSKI, Maryland
JEFF BINGAMAN, New Mexico
PAUL D. WELLSTONE, Minnesota
PATTY MURRAY, Washington
JACK REED, Rhode Island

MARK E. POWDEN, *Staff Director*
SUSAN K. HATTAN, *Deputy Staff Director*
J. MICHAEL MYERS, *Minority Staff Director and Chief Counsel*

(II)

CONTENTS

STATEMENTS

DECEMBER 4, 1998

APPENDIX

ARE OUR CHILDREN READY TO LEARN?

FRIDAY, DECEMBER 4, 1998

U.S. SENATE,
COMMITTEE ON LABOR AND HUMAN RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:35 a.m., in room SD–430, Dirksen Senate Office Building, Senator Jeffords (chairman of the committee) presiding.

Present: Senators Jeffords, Hutchinson, Collins and Reed.

OPENING STATEMENT OF SENATOR JEFFORDS

The CHAIRMAN. The Committee on Labor and Human Resources will come to order.

I want the committee to get off to a good, early start on the most important piece of legislation which is in our purview, that is, the Elementary and Secondary Education Act.

What we have learned as we have gone forward is that the most critical thing as to how well our children are going to do in those early grades depends upon what we do before those early grades. So I am pleased to be holding today what I think will be a good hearing on making sure we know where we are going.

Some years ago, we established Goals 2000 and took a look at individual areas where we should look for progress. I sit on that Goals panel, and I must say it is a most discouraging exercise. But Goal 1 of our national education goals makes the following declaration: "By the year 2000, all children in America will start school ready to learn."

Today is December 4, 1998, and we are one calendar year away from the deadline established not only for Goal 1, but also for the other seven goals. Unfortunately, indicators are that we will not meet or even come close to having all children ready to learn when they enter school at age 5.

Recent studies indicate that significant learning development occurs from birth to age 3. Learning is enhanced when children have access to high-quality preschool and child care programs, when parents—and this is most important—devote time to the children, especially in reading to children, and when children receive quality health care services and are given proper nutritional guidance which is essential for healthy minds.

Child care centers are essential providers of early childhood education. Child care staff must be aware of the stimulation that is essential to engaging a child in order to enable that child to reach his or her maximum learning capacity during the formative years.

In addition, parents, teachers and child care providers should have an awareness of how to identify learning disabilities, such as dyslexia, in the early years.

The last hearing this committee held focused on learning disabilities, which affect up to 12 percent of our children. Through early identification, it is possible to learn how to correct a disability or how to incorporate certain learning mechanisms which will help a learning-disabled student.

Recent studies released by the Goals 2000 panel illustrate that there has been significant improvement in having children ready to learn. It is important to note that that improvement occurs because children are entering school healthier. For example, at least 30 States have reduced the percentage of infants born with one or more health risks, and all 50 States have increased the percentage of mothers receiving early prenatal care. And I am pleased to note that my own State of Vermont is one of the highest-performing States in reaching Goal 1, especially with regard to having children, at least health-wise, ready to learn.

Today's hearing focuses on how children learn at an early age. Although we have made progress in some areas of our educational system, we still have a school system that is in many respects based on the agrarian concept of ending school in time for spring planting. Since our public education system has developed, our Nation has traveled through the Industrial Revolution, the electronic revolution, and we are currently in the middle of the high-tech revolution; however, we still have a school system that is in some respects more focused on children's needs at the turn of the last century rather than on their needs in future centuries.

Today we will hear different perspectives on early education. We will delve into the importance of early childhood longitudinal studies which will focus on education, health and development of children and how to understand the results of such studies and others that have occurred over the last several years. In addition, we will discuss the role of child care centers in early childhood education and the role of early childhood educators and how to improve training for early childhood educators.

I look forward to listening to our experts and discussing their recommendations as to how we can meet these goals.

I also want to recognize that I have two members of my committee with me who will be with me again in the coming year—Senator Hutchinson of Arkansas and Senator Collins of Maine.

If either of you have a comment you wish to make at this time, you are welcome to do so.

OPENING STATEMENT OF SENATOR HUTCHINSON

Senator HUTCHINSON. Thank you, Mr. Chairman. I hope we get extra brownie points for being here today.

The CHAIRMAN. Absolutely no question about it.

Senator HUTCHINSON. I certainly want to commend you for holding this hearing and for getting off to a quick start on what I think is certainly going to be one of the most important efforts that we make in this Congress on the reauthorization of the Elementary and Secondary Education Act.

As someone who, in my real life, before I got into politics, operated a preschool and a day care center, I have special interest in this subject today, and I think it provide us with some great opportunities.

The whole ESEA reauthorization process gives us a tremendous opportunity to examine what we have been doing for the last 30-some-odd years since this bill was first enacted, to reevaluate each and every program, and I think we need to look at reversing some of what has failed over recent years. We should not in any way look at this reauthorization as being simply a process by which we rubber-stamp the status quo.

I think the example you gave, Mr. Chairman, in your opening comments about how education has stayed with the agrarian model—although we have seen all these changes in our society, we still have the 9-month school year in most school districts—but that is really reflected in a broader sense in the whole way we educate.

So this gives us, I think, a change to really, with an open mind, look at what has worked, what hasn't worked and what is the direction in which we should go in reauthorization. I like, when we think about reauthorization of ESEA, to think about the welfare reform model a little bit, because I was in the House at the time, and we went through the process of reforming our welfare system. In looking at welfare in this country, what we saw was that the exciting things that were happening in welfare reform were happening at the State level, not at the Federal level, and the centralized Federal control of welfare had really been counterproductive, with people being enslaved into lives of dependency.

So we passed historic legislation that empowered the States to create their own innovative programs in welfare, and it has worked. And I hope that as we look at the ESEA reauthorization, we can think about that successful model and about how we can look at the State laboratories.

I met with the director of education in the State of Arizona this past week, and it was exciting to hear what Arizona is doing in education reform. That is happening all across this country, and we need to not stagnate what they are doing but to truly empower them.

And the one standard, of course, that ought to direct everything we do in this hearing, in all of our hearings and all of our markets, is what is going to be good for the children of America in future generations, and I look forward to working with you in that effort.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Hutchinson.

Senator Collins?

OPENING STATEMENT OF SENATOR COLLINS

Senator COLLINS. Thank you very much, Mr. Chairman. I want to commend you for organizing this hearing. I think it is a tribute to you that we are here on a Friday in December, already beginning our work in anticipation of the reauthorization next year.

As Senator Jeffords well knows, as does Senator Hutchinson, one of my primary concerns has been access to higher education, and I have seen that issue primarily in terms of raising our children's

aspirations as well as ensuring that they have the financial means to go to college, to get postsecondary education, so that the doors are open to them.

There is, however, another critical factor, and that is that many of our young people lose their opportunity to participate in higher education before they complete primary school. One root cause is that they were not ready to learn when they entered primary school.

Research increasingly tells us that the first 3 to 5 years of life are critically important, especially to the acquisition of language skills. When a child passes through these early years without the stimuli, the support and the nurturing needed for full development of early learning, we close the windows of opportunity to that child, windows that may be impossible to open later in life.

Of course, the primary responsibility for early childhood development resides with parents, and I don't think we should forget that as we enter this debate. But certainly Government programs can assist parents in achieving their children's full potential.

I look forward to hearing the testimony today and to working with the chairman and the other members of this committee to ensure that all children are ready to learn when they enter school and that no child has his or her educational future closed before that education formally begins.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator.

Now I would like to recognize Senator Reed, who has really shown tremendous knowledge and understanding in this area. He succeeded Senator Pell, who was of course a cornerstone of so much of our education policy.

Senator Reed, please proceed.

OPENING STATEMENT OF SENATOR REED

Senator REED. Thank you, Mr. Chairman.

You wisely pointed out I "succeeded" Senator Pell—I could not replace him.

The CHAIRMAN. I was careful about my words.

Senator REED. Very careful; I appreciate that, Mr. Chairman.

It is a pleasure to be with you today. I first want to commend you for this hearing. This is probably one of the most critical subjects that we face in the whole area of educational policy. Sadly, about one-third of children who enter kindergarten are not ready to learn, and that is a disturbing statistic. It is a huge loss in the potential talent of this country, and it is a loss that we cannot continue to absorb given the challenges we face in this time and in the next century, which is rapidly upon us.

Also, we understand now, because of some basic scientific research, that the critical years of life from birth to even before school are so necessary to develop our children, so we have to do much, much more to make children ready to learn.

Again, this is a critical issue. I am eager to listen to all the witnesses and to my colleagues, and I commend you, Mr. Chairman, for holding this important hearing as preparation for the reauthorization of the Elementary and Secondary Education Act.

Thank you.

The CHAIRMAN. Thank you, Senator Reed.

I will ask unanimous consent that statements of Senators Kennedy and Dodd be entered into the record at this point.

[The prepared statements of Senators Kennedy and Dodd follow:]

PREPARED STATEMENT OF SENATOR KENNEDY

I thank Senator Jeffords for convening today's hearing and for his continuing leadership in promoting the healthy development of young children. Every child deserves the opportunity to start school ready to learn. We know what it takes—significant investments in children long before they ever walk through the schoolhouse door. The earliest years of life are critical for every child's future development. Studies by the Carnegie Commission demonstrate the immense importance of brain development in the first months and years of life. During this period, children are forming the intellectual, emotional and social skills that well enable them to take full advantage of future opportunities and reach their true potential.

Unfortunately, large numbers of children do not have the care and attention needed for such development. Too often, child care programs and preschool programs are not available, or are prohibitively expensive and beyond the reach of working parents.

Today's children face enormous challenges at a very young age. It's a scandal that in the world's richest nation, so many children go hungry, live in poverty, or grow up without adequate health care. Inevitably, their education suffers too.

Today's children are tomorrow's work force. We owe it to them and to our country to guarantee them a realistic opportunity to enter school ready to learn.

PREPARED STATEMENT OF SENATOR DODD

Mr. Chairman, I would like to thank you for convening this hearing on the critical importance of children entering school ready to learn. This is a concern that is, unfortunately, not unfamiliar to this committee or to you, Mr. Chairman, who has shown such leadership on issues affecting young children throughout your career.

As we are all aware, goal one of our national education goals is that "by the year 2000, all children in America will start school ready to learn." This is an essential goal because it lays the foundation for all other educational goals—including student achievement, school completion and success in math an science. However, we are still far from reaching this first, critical goal.

Kindergarten teachers tell us that as many as one in three of their students begins kindergarten unprepared to meet its challenges. And in many instances they cite the most basic concerns—children who come to school without proper rest, nutrition or basic social skills. How can we expect to compete and excel as a nation in the next millennium with our children's first teachers expressing such basic concerns?

We have other measures of school readiness. The national education goals panel has identified three components to measure progress in school readiness—the involvement of parents as a child's first teacher, proper nutrition and health so that children

are able to maintain mental alertness, and universal access to high-quality preschool programs.

There has been some improvement in the first two area identified, with increased numbers of children completing immunizations and more families reading to their children. However, these gains are relatively small, leaving much room for improvement.

And finally, no progress has been made in the area of universal access to quality preschool. Research has demonstrated that disadvantaged children benefit most from high-quality preschool programs; and, yet these are the children overwhelmingly under served by preschool program. Head Start serves only 40 percent of eligible children. Overall, only 43 percent of children from low-income families are enrolled in child care or early care and education programs, whereas 72 percent of children from high-income families are enrolled in such programs. This disparity between children from high- and low-income families has not decreased since the national education goals were set forth. Poor children simply do not have as much access to preschool as other children, leaving them less ready to begin school. This places them at an even greater risk for school failure and related problems later life.

We know that higher academic achievement is more likely when children receive the preschool experiences that prepare them for school. Research in my State of Connecticut demonstrates that students from schools in which a high percentage of children attended preschool programs score better on State mastery tests than students from similar schools with low rates of preschool attendance. Connecticut believes that this issue is so important that it has appropriated over $87 million for the first 2 years of a 5-year initiative to fund school readiness programs.

This hearing is an important first step, but more legislative action on this issue is the challenge that faces the next Congress. I will continue to push for policies that bring us closer to preparing all children for school. These include increased availability of quality child care, as well as full funding for Head Start, so that children receive early care that enhances their development. We should also expand the Family and Medical Leave Act so that parents have a greater opportunity to spend time caring for their own children. There are also broader issues affecting young children and their families—health care, welfare reform, and violence.

There is clearly much to be done for our children. I want to once again commend the chairman for beginning the critical dialog on these issues with this hearing. I look forward to working with him and the rest of the committee to work to thoughtfully address these vital issues.

The CHAIRMAN. Our first witness today is Dr. Pat Forgione, Commissioner of Education Statistics at the Department of Education. Pat was the first executive director of the National Education Goals Panel and was a State superintendent of public instruction in Delaware prior to taking the reins at the National Center for Education Statistics.

Please proceed, Dr. Forgione.

STATEMENTS OF PASCAL D. FORGIONE, JR., COMMISSIONER, NATIONAL CENTER FOR EDUCATION STATISTICS, U.S. DEPARTMENT OF EDUCATION, WASHINGTON, DC; AND FAITH A. WOHL, EXECUTIVE DIRECTOR, CHILD CARE ACTION CAMPAIGN, NEW YORK, NY

Mr. FORGIONE. Thank you, Senator Jeffords and other Senators present.

My intention this morning is to provide you with a factual representation of the critical data needs for the critical period of early development of early childhood education. I have submitted a paper that I hope everyone has with them, because I will use it as part of the presentation, and I hope this will be a useful resource to you and the committee as you move forward with your very valuable work to examine the condition of education in our Nation and to direct appropriate Federal programs and investments in education.

Student achievement is a basic indicator of a Nation's ability to produce educated citizens and a predictor of how students will fare in the labor force once they leave school. Increasingly, we come to understand that what children achieve in school is related in no small degree to what happens before they enter school—let me repeat that—before they enter school.

Early childhood education has become a critical area of focus for the education community and I am pleased to say for my agency, the National Center for Education Statistics.

In the paper that is available today—and it is on our web site as of this moment so American can have equal access—I briefly review the latest student achievement patterns in math, science and reading. I want to set a context for how we are doing in our elementary and secondary education because we do not have very much of this in the early years, as we will see.

Then what I would like to do—in the paper, I have looked at the field of early childhood education that suggests that early childhood education has a strong impact on achievement and success in school.

Then the paper presents examples of national indicators of early childhood development that are currently available and developed, as Senator Jeffords mentioned, in the Goals report. These are used for monitoring devices. The paper discusses both the values of these indicators and their limited usefulness in informing us about what is important to know about the backgrounds of children, their experiences and the outcomes of young children.

Finally in the paper, the good news—we outline two studies that this Congress and administration have launched called Early Childhood Longitudinal Studies Program, which will address many of the critical data gaps in our knowledge about children at such a critical period of their development.

In the second section of the paper, pages 1 to 4, which I will not cover, I go through the national and international comparison of how are students doing compared to themselves and compared to our international context. On pages 4 and 5, if you could open the paper, I have five dot points that I would like to briefly summarize, because I think this captures the spirit. I will also refer to a set of figures.

First, there has been a gradual increase in math and science achievement since the early 1980's. If you take the benchmark of 1982 compared to 1996, as shown in Figure A on page 19, you will see that there is a little, gradual increase since "A Nation at Risk" in mathematics and science. On page 21, I point out the second point—there has been little change in reading performance since "A Nation at Risk." If you look at page 21, you will see we have a series of data collection—the same little reading test has been given over 30 years; we keep the test the same, and therefore, we can look at student differences. And if you take a benchmark of 1984, which is closest to "A Nation at Risk," to 1996, you will see that in reading we have had little change in our performance.

The third point, page 22, there are substantial gaps in the achievements of white students and their black and Hispanic counterparts that persist, although the gap has narrowed somewhat for math and science since the 1980's.

The fourth point, primary school students in the United States, if we take grade four students, tend to perform above the international average in reading, math and science, but our international standing, the comparison of our eighth grade students, begins to slip in comparison to their international counterparts, and this comes from Figure E on page 23, when you look at the Third International Math and Science Study, of which we have science and math in grades four and eight.

Our fourth-graders were second only to Korea in science, and only a few countries were better than we in math at fourth grade. But by eighth grade, we slipped below the international average in math, and we were just barely at it in science. So this is a different image of our productivity in comparison to other countries.

The final point—there is considerable variability across the 50 States in student academic performance.

These findings raise concerns about U.S. education performance—in particular, are we making progress over time in the large and persistent subgroup differences in academic achievement. Many people are interested in the child's early educational experiences as a possible means to improve the level of achievement and reduce the variability.

Now, if I could, I would like to go to the next part of the paper, where I ask the question: Why is early childhood education so important? Several of you have really set this up very well.

The best data suggest that these gaps in performance are there from the beginning of formal schooling. As I point out on page 5 of the paper, one study indicates that more than half of the gaps in achievement found between black and white 12th-graders can be attributed to the gaps that existed at the beginning of first grade.

Furthermore, the paper highlights a series of rationales that my colleagues will talk about today that support the importance of early childhood development. Research studies of children's brain development point to the critical importance of their experiences during the first 2 years of life and the long-term effects of these. Cognitive ability is formed in early childhood years, as Senator Jeffords opened with, and this may be a more effective place to intervene. And third, there are studies that say there are long-term

positive effects of high-quality early childhood programs on achievement and success.

So much of the recent public discussion on education has focused on the early years, children's development and learning, during the early childhood period from first to about age 8; their preparation for formal schooling; their first school experiences; and the progress they make through school as they enter.

Now let me talk about the current State of early childhood data, what I said about those indicators of the national assessment. These are not available below grade four or age 9. Although both empirical research and new policy initiatives have placed greater emphasis on early childhood education, there is little in the way of data—let me repeat that—there is little in the way of data to actually demonstrate what preschoolers know and can do; what factors were related to these abilities. Instead, national studies and monitoring reports rely on proxy measures of early childhood abilities, condition or experiences to assess early childhood education.

If I could draw upon an example that Senator Jeffords mentioned, in the Goals Panel, they have a wonderful blueprint of five critical dimensions of children's growth and readiness to learn; but when you look at their report that is coming out next week, they have only been able to present proxy measures in the "Readiness to Learn" section.

Let me now tell you about three indicators that my agency has developed to report on in this area. These are on pages 7 and 8 in the paper.

We use the National Household Education Survey. We call homes, and through that, we are able to examine issues over time. The first example is a 1993 survey that NCS did of the percentage of preschoolers with developmental accomplishments in the areas of literacy, numeracy, small motor skills and health status reported by parents. If I could ask you to open to page 24, here you see a series of indicators we gained by calling the parents, talking to children in some cases, but in this case talking to parents about their children. Here, you can see some significant findings at page 25, Figure G.

Fifty-seven percent of all 4-year-old students could recognize most or all of their letters. Fewer than three out of five could do that. Sixty-percent could count to 20. Seventy-eight percent could write or draw rather than scribble. And 23 percent have a short attention span. These are important indicators of what children are like as they go through their preschool experience.

The second indicator is on the next page, page 26. In 1996, we can report to you that 57 percent of children 3 to 5 were read to aloud by a family member every day in the last week—57 percent had that experience. It is up slightly from 53 percent. But if you look at Figure H on page 26, notice the difference for mothers who have no high school diploma—only one-third of them read aloud every day to their children in the past week. Even if you have a high school diploma, it is only 49 percent, compared to college-educated parents where it is three out of four. Here, we get the kinds of gaps that are growing in something that we know is important—children listening to adults read to them.

The third and final indicator is on the next page, page 27. Here, we can tell you that 53 percent of children ages 3 and 4 yet to enter kindergarten attended center-based early childhood programs. So just about 50 percent were in a program before they came to kindergarten in 1996. However, if you ask what has happened over time, Dr. Forgione, we can tell you that for those above the poverty level, it has gone from 54 percent to 58 percent; but for those at or below the poverty level, it has remained at about the same point, 41 to 42 percent. So that still only two out of five are getting an experience before they come to school.

I would like to thank you for your support of some dozen Federal agencies that have shown leadership in the issue of children and families. We have developed an indicators report of some 36 indicators, called "America's Children: Key National Indicators," and my agency has been a major supplier of talent to get this done together with our Federal colleagues. This puts education in the larger social, demographic, economic context that these indicators I mentioned alone would not do.

Finally, we should say that these three basic measures from the NHES survey, while they are the first national picture of preschool experience in cognitive development, point out the tremendous variation in the background that young children bring to kindergarten. However, while these data are certainly valuable, or I would not have mentioned them to you, they are limited, because they do not directly inform us about the mechanisms of which children's social, intellectual and emotional development are affected by their families and school environments.

Many researchers and policymakers have pointed out that adequate information of this type, the direct measures, is essential to good national policymaking, and certainly, Senator Jeffords, the agenda ahead of you requires that kind of data.

I would specifically identify in the paper four areas in which we have laid out the policy questions and then later tell you how a future study will address them. School readiness is a key issue. Transition of children to child care, early childhood programs, kindergarten and first grade is a very important issue; the relationship between the kindergarten experience and subsequent elementary school performance; and finally, children's growth and development during the early years.

Pages 9 to 11 in the paper cover the questions that we believe are important to answer. And again, as I said, the good news is that we have two studies underway that will collect new data to address many of these data gaps, and these two national longitudinal studies of children—one is a birth cohort—in the year 2000, we will have about 12,000 children, 1,000 a month born in 2000, and we are going to stay with them and interview them and their parents regularly across birth to age 6.

The second study, which is launched this fall, is the early childhood longitudinal kindergarten study. We have some 20,000 kindergartners across public and private schools in America, and we will follow them regularly through grade 5.

These two studies we believe will give you the kind of information in the future that can really help to better guide your decisionmaking about what it takes to be ready for school.

Again in the paper, on pages 13 to 15, I show you how those studies really address the four areas. If I could just give you a glimpse of some of the issues we are dealing with, for example, the birth to kindergarten cohort—on page 13—will be used as the major source of information on school readiness. Both of those studies will tell us how do you come ready to school, what do you like in kindergarten. The birth cohort will be used to study children's transition from child care and early programs and, along with the kindergarten study, will look at the transition to kindergarten, the critical transition from kindergarten to grade one. The issue of summer loss is a major issue. We will be able to bring you data by 2001 on what happened between this cohort that went from the spring of kindergarten to the fall of first grade. Did they lose it over the summer, or are they losing it during the school year? These are terrific questions for which you need statistical information which we want to support you with.

Finally, the study of children's growth and development and critical domain that are important to school success will rely on both issues.

Finally, Senator Jeffords, I would like to acknowledge the strong partnership of a number of Federal agencies that are actively involved in these two studies. There are three offices in the Department of Education that are participating—the Special Ed Office, OBEMLA, and our Evaluation Office—but we have six Federal agencies—the U.S. Department of Agriculture, the Administration of Children, Youth and Families at the Department of Health and Human Services; Head Start, of the Department of Health and Human Services; the National Institute of Child Health and Human Development, NICHD, which has done that good work and is a partner in both of these studies; the National Institutes of Health is a partner, and the National Center of Health Statistics.

So we are pleased to be able to provide leadership at NCES in partnership. These involvements have enriched the ECLS program and expanded the types of questions that ECLS will address. It has also extended the usefulness of these data beyond my agency and my typical clients.

I thank you for this opportunity to present to you this introductory overview, and I welcome any questions later.

[The prepared statement of Mr. Forgione may be found in the appendix.]

The CHAIRMAN. Thank you very much, Dr. Forgione. I think we will question you before moving on to our next witness.

In your analysis of the various national assessments that have occurred since 1980, you noted that little has changed for students in the United States in reading performance. From your testimony, it sounds like the U.S. was in fairly good shape in 1980, and perhaps there wasn't that much room for improvement. However, as you know, most studies indicate that we have a high illiteracy rate, especially among adults. Can you explain this contradiction?

Mr. FORGIONE. Yes. I do not mean to give an image that the 1980's was anything rosy. We are statisticians. All I can do is, in Figure C on page 21, show you a graph from the seventies through the nineties. Basically, what you see is that in the seventies, we began to slip through the early eighties. That is when "A Nation

at Risk" came out. Now, we have come back, but we have only come back to that level at which we were in the seventies, so there it is about the same in reading. I can't talk about improvement in the larger sense.

There is another database called the National Assessment of Educational Progress. I could bring you those data. In fact, in February, we will have our fourth Reading Report Card, and that would be a better measure of our States which are, as Senator Hutchinson said, the laboratories of reform. Some 40 States participated in that, and we can talk about the progress of each State in terms of that issue. So I don't mean to misrepresent it. It was a benchmark, "A Nation at Risk," which was kind of a low point. In science and math, for example, we had a big dip, and now we have come back up, and we are a little bit better, but it has been 30 years and only a little better, and that is the status of it. You have to judge whether that is enough progress and what is appropriate.

The CHAIRMAN. Have you done any studies on the area of retention? You noted the fact that our young people in mathematics start off above the international average, or among the best, and then slip to the average. I think the latest TIMSS studies show that by the 12th grade, they are about the worst among industrialized nations.

It seems to me that one factor that we talked about earlier might well be the fact that we are still on the agrarian system. I have teachers in my family—my mother was a teacher, my sister—and they say there is a very substantial loss over the summer, and when the students return, it takes them about a month to catch up. So if you add the fact that we have a month or two extra in vacation each year in the summer, and then we have to spend another month catching up, do you think that that is related to the fact that we go from first to last?

Mr. FORGIONE. We at this point cannot offer you any answers about the cross-sectional vision of America—that our fourth-graders are up here, the eight-graders are in the middle, and the 12th-graders look like, internationally, they are not in good shape.

However, this spring, Senator, we will re-test the world in TIMSS—it is called TIMSS-R, replication. It is the same eighth grade test. Do you remember those good fourth-graders in 1995? They are in eighth grade already. This spring, we will re-test them. So we will not only get cross-sectional data, but eight-graders in 1999 in America and eighth-graders in 1995 versus the world—we would also like to look at the longitudinal pattern. It is the class of 2003. They entered kindergarten in 2000, they were fourth-graders in 2003, and they are now eighth-graders in 1999.

We can tell you from the TIMSS study, Senator, that rigor and focus do make a difference. As children in America move through their curricula into middle school, the mathematics being presented is not equal to what the world is giving its students in the best countries. What we typically give in eighth grade to our math students, the best countries are covering that in seventh grade, so there is a year gap.

I think it is about expectations, it is about curriculum and textbooks. The TIMSS study is a rich database that States and districts have been using. I am pleased to say that 15 States and

about a dozen districts in America are going to take the TIMSS test next year with the 40 countries; each of those States voluntarily said I would like to benchmark myself, or each of those districts. I believe they want to answer these questions, Senator, and it takes a good research design of pre- and posttesting to be able to answer them.

On the retention issue, unfortunately, it is not a strong database. We would like to use the early childhood, kindergarten through grade five, to be able to help you understand this churning. Does the gap get wider? Who gets held back? What are the reasons? These are very complex interventions, and at this moment, most of the studies have been very superficial, with very different policies across America about retention, as you know.

The CHAIRMAN. What concerns me is we say we will know the answer in 2003, and then we can start taking corrective action.

Mr. FORGIONE. Well, I have only been here for 2-1/2 years, Senator, and I want to come to you each time with benchmarks of progress. I know how hard it is to present just a baseline, because you really want to know where we are going. But with your support, we are on a path, as you heard, to really give the next reauthorization very strong data. By 1999, we will have data on kindergarten and in 2001, on summer loss. I wish I could give you more as you begin your important journey in this reauthorization cycle related to early childhood education.

The CHAIRMAN. You did not mention Head Start. Are there any special studies being done by you for Head Start?

Mr. FORGIONE. We do not do evaluation. We are a statistical agency. I am Jack Webb, the "facts only" man. I let you decide what it means. But you want trusted and trustworthy data. I am very pleased that Head Start is an integral partner in the kindergarten study. Of those 20,000 children, there are a lot of children who were in Head Start. There are a lot of poverty children who were not in Head Start. This will be a rich database to look at over time for the Head Start administration, for your staff to begin to ask those important questions about progress—does intervention work? We will give you the database, and you can turn to the different evaluation mechanisms to use it.

But I am pleased to say that we are being prepared for those questions, because I know they are on the radar screen consistently, and Congress has not been pleased with a good database to answer them. Again, I apologize that they are not here now, but they will be here within the next year or two.

The CHAIRMAN. What percentage of schools in the United States would you estimate are good quality?

Mr. FORGIONE. I think that is in the eyes of the beholder. The surveys say my school is good no matter where you are; it is those others schools that are not. I believe we should be data-driven in our decisionmaking, and your investment in the National Center of Education Statistics allows America to have that data. I am pleased that school boards are now in their journal putting out a page from NECS on crime statistics, on fatherhood, on the demographics of birth, on school construction. We need better data to answer it.

52-734 99 - 2

The question of quality is evaluative data that I would leave to you and the President, the Governors and chief school officers, to really make a judgment, because America is a decentralized government system, but we need information at each level, and I hope we can be your partner to answer the questions you need answered.

The CHAIRMAN. Thank you.

Senator Reed?

Senator REED. Thank you, Mr. Chairman.

I just want to go back to your discussion of the increase in mathematics scores, the graph on page 20. It seems like kind of a flat line here. I mean, if it were an EKG, the patient would be dead. [Laughter.]

Is this a statistically significant increase?

Mr. FORGIONE. It is very hard to talk about change. I mentioned that in this study we have the same little math test we have been giving since 1970. People want us to change it, but if we change it, we lose comparability.

The question here, Senator, is if you look at the children in 1973 here on the math test and compare it to 1996 at the far end, there is a quadratic equation. It does bend and come up.

I can say to you that statistically, there is an improvement in mathematics. It is very slight, and over that 30 years, you have to judge if that is enough. The children of America have changed demographically in terms of the mix to about 20 percent poverty from about 15 percent, but at least it is stable and up a little—but it is certainly not dramatic growth.

I would ask you to look at the NAEP mathematics scores I brought out a year ago—23 of 36 States made significant progress, moving more kids above a basic hurdle—remember, NAEP has performance levels—more above a proficient level, and also the average moves up. That is what you want. You want the whole distribution improving, not just our best kids doing better. So these data only tell us we are a little better statistically since 1973; the NAEP math data can show you three data points of 23 States, as Senator Hutchinson mentioned, that really are making progress, of 36 who are about equal.

Senator REED. I do not want to belabor the point, but it is different at different ages. It looks as if the 17-year-olds have either stayed the same or slightly decreased, probably not statistically; the 13-year-olds have dropped, and the 9-year-olds appear to have gone up. I know the graphical representations are complicated, but I do not know if the graph matches the numbers.

Mr. FORGIONE. There are really four ways to look at it: How did we do this year versus last year? That is point-to-point, 1996 versus 1994. Then, you can take 1996 versus 1970-1973. Then, you can do a linear equation in the quadratic—and you really need to do that since America declined appreciably. You can see it in the science data. Since we declined in the eighties, have we come back, and where are we? That is why you need sophisticated technology—but certainly, it is not a present you want to give someone for the holidays.

Senator REED. All right. Let me ask you a more general question. You do a lot of data collection, and data collection is driven by lots

of reasons. One reason is that you want to build a model so you can test some policy against that model and come up with some suggestions for what we might do.

What would be the variables in your model in terms of student performance—or, let me step back and say the reason I ask this question—and maybe it is more fundamental—is do you have a model that you are trying to build, or some kind of notion of what you have to look at, because many times, that is the critical step, not the data you collect and the charts. It is a conceptual view of the world that you have.

Mr. FORGIONE. That is very true. In both studies I mentioned, they have a conceptual undergirding that came out of the Goals Panel consensus process of what are those factors—readiness, the transition, the cognitive development.

If you look on page 9, the first heading under "Readiness," you get a sense of the issues—early literacy, cognitive knowledge and skills, social behavior, physical motor skills. We are doing one-on-one assessments of children. The teacher is working with each child here. This is not large group/paper-and-pencil/bubble tests. This is psychomotor skills. This is the kind of assessment every teacher would love to have.

We have built those, and in the future, we would like to make them available to America. But you are right—in here is the model. It is a consensual model. It seems to have what I hope my colleagues later will cover as the important characteristics, but you really have to know the instruments, because in the instruments are the values of America that we will be presenting.

We have vetted this with all the other statistical agencies, as I said, and with other groups because we want to make sure the data are the appropriate data.

Senator REED. Well, I was getting at the point that eventually, we have to make policy judgments, not about readiness in a general sense, but what is the leverage that we essentially poll—is it teachers, curricula, families? And your efforts, although they are very worthwhile, if they come up and tell us children are not as ready as they should be, and we know that because we have measured cognitive skills, and they write rather than scribble, or scribble rather than write, that is very interesting, but ultimately, we are not going to make decisions about children writing or scribbling—we are going to say we have to invest more in teachers, and how do we change the culture of teaching. What is the contribution of families to this? How do we link up to parents? And I am wondering if all of your data efforts are driven along those lines, or if anyone is driving along those lines?

Mr. FORGIONE. On the latter point, absolutely. This study of birth will look at the families, the fathers' impact on their children's development, the mothers' impact. We definitely know that these variables have to be looked at broadly, not just school-based or institution-based, but we have got to look at the environment and other issues.

The indicators that I mentioned, those three that I showed you, were the old indicators that are not good enough, so we have brought the ones of going to preschool and reading to your child. The ones in this study deal with math and writing and literature

and science. Those are the things we are assessing on, and we will be able to bring data back to you that will talk about productivity. Is productivity of certain types of schools better than others? How are urban kids growing versus rural kids? Do some States in parts of the country progress better than others? What are the dimensions at the early years that are more important than the middle years and than the later years of primary?

So we will be bringing information, and I believe this will be a resource that school boards and parents can later use. It will be a resource for them to use, but in your case, you will have objective data for the first time, a nationally representative sample in which we can tell you how we are doing over time with what kind of children—poor children versus middle class children, advantaged environments versus disadvantaged—because we know those are the important issues that you must do.

Again, we will only bring you the database, the facts, and then you may want to do some sophisticated analysis, build your own indexes of accountability and those who are very appropriate. We do believe we need better science, though, before we do that. That is why we think these studies will be terrific for policy and for methodology substance.

Senator REED. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Hutchinson?

Senator HUTCHINSON. Thank you, Mr. Chairman, and thank you for the facts we have received.

On page 3 of your report, in the area of "international comparisons of math and science," it seems to me if I am reading this correctly that our studies start off in the early grades doing pretty well competitively internationally, according to the TIMSS—I think you are using the TIMSS report on this——

Mr. FORGIONE. Yes.

Senator HUTCHINSON [continuing]. And by the time they reach the 12th grade, we are behind, we are not doing so well in international comparisons. Wouldn't that suggest, at least in the area of math and science, that the problem in achievement is not so much where they start off when they get to the first grade and what kind of preschool early education they may or may not have received, but that the glaring failure has to be somewhere between grade one and grade 12, where they start out doing pretty well in international comparisons and then end up well behind?

Mr. FORGIONE. I wish we could answer that. You have to remember these are cross-sectional studies. We do not know if the eighth-graders, who did about average—4 years earlier, when they were fourth-graders, were ever as good as these fourth-graders. The image is one of a slide. That is why I have to do longitudinal studies. For example, those 12th-graders who did so badly were the children of the "Nation at Risk." They entered school in the mid-eighties. We do not know if this eighth grade group is going to do better than they, but certainly the fourth grade group has been the fourth-graders of the reform. They entered kindergarten in the fall of 1990.

That is why, Senator, if I can re-test this spring, I will be able to come back and say how that good group that was so well-posi-

tioned at fourth grade is doing—maybe they will be well-positioned at eighth grade. So you have got to be careful when you have cross-sectional data that you bring out 4th, 8th and 12th, simultaneously. You do not know what caused the 12th-graders to do as poorly, relatively. Obviously, we can make some assumptions because we have other datasets such as the one I presented, but it is just causality we have to be careful with. It is only cross-sectional.

We can tell you we are not well-positioned at 12th grade. The other countries are much better-positioned. At fourth grade, we are terrific—we are almost first in the world. We thought that goal was so far away, but look at our fourth-graders. And if you look at the reading study in the IEA reading, at fourth grade, we were second in reading only to Finland. So our fourth-graders seem to be well-positioned.

I would like to answer that question, but you need a longitudinal design that the early childhood study will bring so we can tell you what happened to the same kids as they churned through it. Certainly, school effects make a difference as well as out-of-school effects. I cannot disaggregate them for you, but obviously, you know schools.

Senator HUTCHINSON. On page 8 in your report, you indicate that "Studies have demonstrated the participation in high-quality early childhood education programs can have short-term positive effects on IQ and achievement and long-term positive effects on low-income minority children's school completion."

We used to have a 3-year-old in kindergarten and a 4-year-old in kindergarten, and we had a lot of cognitive stimulation—they were reading by 4 years old—but what we found often found for those who had very strong academic emphasis in preschool or early kindergarten programs was that the differential, when they were in first grade and were reading, and their counterparts were not, by the time they reached sixth grade, that gap had closed appreciably, and there was no significant difference.

It seems to me that what you are saying here is that the positive effect is short-term on IQ and achievement, and the long-term benefit is primarily with minority and low-income children where the benefit is in school completion and the value of education as opposed to any particular academic or long-term positive correlation there.

Could you expand on that?

Mr. FORGIONE. The research is not real strong in this area, but there are some studies that indicate this. This is why in the early childhood kindergarten study, we want to be able to answer the question about what happens to children as they progress through primary school. We want to look at the difference between the kindergar10 year, how much do you learn, and what do you lose or gain over the summer. A lot of suburban kids will probably gain a lot from that rich environment of libraries and books, and then, when they come back to first grade, where do they stand?

You are raising a lot of hypotheses which are very provocative. This study will give you data to answer a number of them.

Senator HUTCHINSON. But have we not had studies? Every answer is "We need more studies." That is kind of frustrating to policymakers.

Mr. FORGIONE. Well, in the early childhood area, when you get to cognitive achievement—math, reading, writing—we have not had real good measures. There have been some studies, a couple of longitudinal, but some of them are dated, and that is why the Government is investing in this new one at this moment.

Again, it is how much evidence will you need to be convinced, and there are always, with social sciences, the right and left hands.

Senator HUTCHINSON. But the question that I confront is, number one, what kind of investment do we need to make in that early childhood, and then, if the benefits are such that we need to be making and can make that kind of investment, what kind of investment are we looking at—what should be the emphasis, what should be included in those programs—in order to obtain a long-term benefit.

Mr. FORGIONE. I can just say from my agency that this is a brand new area. We are experts in high school to college. We had a 1972 study, a 1982 study, and a 1992 study. We can tell you a lot about what happens to children from 10th grade to graduation on. In this area, what gets measured—and where do you invest—I hope these studies, Senator, could tell you the leverage points where, if you put more investment, it might be really paying off, because every point in development is not the same.

I can just say from our point of view and that of many other Federal agencies that are partners, they are all investing in this, because we all feel we do not have enough of the data—not just research; I want data—on how children are doing, and that is why the studies have been launched.

The CHAIRMAN. Senator, if I could interrupt you briefly, Senator Collins has to leave at 10:30.

Senator HUTCHINSON. I was just enjoying this new thing with no lights going, so I will be glad to yield.

The CHAIRMAN. If you would yield, and I will come right back to you.

Senator Collins?

Senator COLLINS. Thank you, Mr. Chairman, and thank you very much, Senator Hutchinson, for so kindly letting me interrupt your questioning—but you will be pleased to know that it is very much along the lines of some of the issues that you have raised.

I was fascinated listening to your testimony, Dr. Forgione, and I particularly applaud you for your determination to get longitudinal studies that will give us the hard facts we need to make the right decisions not only at the Federal level but at the State and local levels as well as we invest in education, a goal that we all support to ensure that our children have the best possible education.

But I must say that some of the evidence you presented seems to contradict in some ways the very theme of this hearing—and I do not say that critically; I think we have to follow the facts where they lead us, and we do need to be data-driven, and I think that at times, that is something that is very hard for Congress to do at times. But the question in our hearing is "Are our children ready

to learn?" and looking at the impact of early childhood development and preschool programs. But if American fourth-graders are outperforming their counterparts internationally, that suggests to me that we are doing something right in preschool development and in the primary grades, and that the problem is later on, that we are not asking the right question; that perhaps the question that we should be asking is what in the world is happening after fourth grade that causes our students who are performing so spectacularly at the fourth grade level to start this slide.

Now, I understand your point that to truly answer that question, you need to be testing the same group of children, but certainly the outstanding performance of the fourth-graders suggests that that is not where the problem is.

Could you comment on that?

Mr. FORGIONE. I would ask you, in recognizing our terrific international standing in both reading and science at fourth grade—that is a relative positioning. That does not say that we should not be even better, or could be better, but that compared to our counterparts, we like what we see.

That is why what you need to do is to look at all kids at that point. And when I disaggregated in one of the tables in the report, and you start to see gaps in the disaggregation, and we know the demographics of America are going to disaggregate more in terms of that, then you might have cause to say you still need to maintain that fourth grade investment, because it may not hold.

Remember—I like to use the escalator motif—the other countries are on an escalator like we are. At fourth grade, we are a little ahead at most, at least in the good section of it, but they are moving, and therefore, your relative positioning you need to continually benchmark to make sure. But fourth grade looks good. I would just say that when you disaggregate, you see a lot of gaps, a lot of groups in America that are not doing well, and therefore, it may need a strategic investment that certainly the reauthorization would be about.

As you move up the system, there are significant questions, and at each level, I wish I had a study for America. What we have to do is pick "a few good Marines" of data and get those good data and hold them constant and be able to follow them over time. That is why the high school data we have together with the early childhood we think will be able to, over time, answer many questions. But I think for the fourth-graders, this does not have to hold.

What Tim showed us, by the way, is that we were good at fourth grade, but we were the only ones to slip below the international average in math. A couple of countries were good at eighth grade but had slipped by 12th grade. So what Tim is saying is that you need to benchmark at each level—do not predict how you would do at the next level just because you were good. You have to really have evidence.

So I would just say the fourth grade data looks good, but it does not reassure us in terms of the kinds of disaggregated growth that you may want to consider.

Senator COLLINS. And certainly we always have to be concerned about those within the group who could benefit from additional help. But it still seems to me, particularly if you find that the

fourth-graders that you tested who are now the eighth-graders fall behind, that that is a significant finding that suggests that our focus really needs to be on what happens after fourth grade. Would you agree with that?

Mr. FORGIONE. Oh, absolutely. That is why I want to bring you the data, and you can then decide. Secretary Riley has the same imagery. Is the middle school a problem? The data proceeded that way. This study will give us a chance to see if these good fourth-graders who have been with us during the reform era—they came into school in the nineties—if they maintain their relative good positioning, you can feel very different than we do right now. But again, it is a data-driven issue, and it will probably be more complex.

I know that every time I bring data, you feel like a social scientist, because you can always see the other half of this. But your wisdom can make sense out of this in terms of policy, and we want to ask the right questions, and that latter question is why we are doing the TIMSS-R with the same cohort. It will not be the same kids, it will not be the same schools, but it is two national probability samples of the same cohort at two points in time.

Senator COLLINS. One final, quick question. Earlier this year, the committee was looking at Head Start, which is a program that all of us support—I visited an excellent Head Start center in Androscoggin County in Maine and was very impressed with what they are doing—but again, I think we need to let the data determine where we go with Head Start and Early Head Start. It is my understanding that there are some studies that show that students who participate in Head Start and Early Head Start have an early boost, but that it wears off, if you will, that they then fall back.

Are you familiar with those studies?

Mr. FORGIONE. Generally, I am. It has been a few years. My dissertation looked at early childhood policy. I have experts behind me, and we certainly can come and talk with you. But you are absolutely right, and that is why the kindergarten study will benchmark children at the beginning of kindergarten and at the end, at the beginning of first grade and at the end. That is four data points we have never had. How much do you learn in reading in first grade in America? There is no study that can answer that. We can now tell you. Not only that, we can tell you how much do minority children learn, or children from advantaged families. Then we are going to look at third and fifth grades, to answer your question about what happens over time, so this design will be able to address that with the periodicity that is build into it. But they are complex issues, because children, even in the same program, have different inputs from the environment, their homes, so you have to disaggregate that.

This study, again, is only information. You may have to take it and contract an evaluator who can really answer certain questions. I want you to have a rich, useful, timely database that can answer those questions. We in the statistical community do not do evaluation—there are evaluation parts of each department that do that—but we certainly need good information before you can do evaluations.

Senator COLLINS. Thank you, and I thank the Senator from Arkansas for his courtesy.

The CHAIRMAN. Senator Hutchinson?

Senator HUTCHINSON. Thank you, Mr. Chairman.

In responding to Senator Collins, you used the term "relative positioning" in talking about our fourth-graders doing pretty well internationally, that it is relative, and that that does not mean we do not need to be doing better. But that leads me to the question of comparing international educational systems, because there are those who say the problem is our system as opposed to perhaps what European countries are doing.

The TIMSS report—and I have only had an opportunity to peruse it and have not looked at it in depth—but it did make comparisons among countries—and you made reference to our having a decentralized educational system—and it compared nations that have centralized education systems versus those that are decentralized. Was there in that TIMSS report any correlation or any particular relationship that could be found between performance and whether the country's educational system was centralized or decentralized?

Mr. FORGIONE. There is a chart in the back of the report that we put together because we knew that that would be a question, Senator, that people would want to raise. Basically, the answer is not a complete one. Sweden is the best 12th-grade performing Nation in the study. They are highly centralized. But there are also very poor highly centralized countries in the study—South Africa, Cyprus.

Senator HUTCHINSON. What is the population of Sweden?

Mr. FORGIONE. It is more homogeneous, people would say. But at least they tested all their children. When you look at how many children did not take the test in Sweden—all of them did. There are these differences, but at least we can say the Swedish educational system as it existed; how many years, it may differ.

On decentralization, Holland and the Netherlands, I believe, are two decentralized systems, and they did very well. We have other decentralized nations that did poorly.

So I think that what TIMSS has taught us is that it is what you do with curriculum textbook teaching, how you use your resources, that makes the difference. We found no magic bullet—time, homework, TV. You had high performers like Japan who watched a lot of TV, and you had high performers, like the United States, in 12th grade who did not do well.

So I am sorry we could not find that variable, but TIMSS can answer that, and we would be very happy to walk you through some of the analysis, because we did try to find those distinguishing factors that might guide us, and certainly the centralization issue was one.

Senator HUTCHINSON. It seemed to have less significance than perhaps other factors that went across the whole waterfront.

Mr. FORGIONE. All I can say is that factor had pluses and minuses. We did not compare them to each other. That kind of factor analysis or multivariate, we are not able to do right now to get the data out. The first thing we do is get the data out with some quick crosstabs, because you do not want to wait another 2 years.

Senator HUTCHINSON. So there could be further analysis of that data, then, that might reflect——

Mr. FORGIONE. All the data is available on the web; all the world can have it. Researchers are now studying questions, comparing questions across countries, because we believe, as does Congress, that this information belongs to the public. And it is the first international study, I am pleased to say, that has ever been released. There was a SIMSS and a THIMSS. Those professors thought they owned it. Well, in this study, I am pleased to tell you that all the data have been released; anyone can do his or her own analysis. It is on the web, and you can get a CD-ROM. So it is a terrific resource.

Work is being done, and they might have findings that countervail what we said in our initial work, but that is okay, because that is why we want good information. But our initial work did not come up with any distinguishing factor that the good people had, that the good countries, high performers, had that the low performers did not have. We were hoping for those magic bullets, but in education it is rarely that easy, as you know.

Senator HUTCHINSON. Very good. Thank you.

If I could again reference page 8 in your testimony, about halfway down, on the need for better early childhood data, you say "The early experiences of children born in the 1990's differ in important ways from those of children born in previous decades. They are more likely to live in young, female-headed, single-parent families, to live in poverty," and so forth.

That really brings me back to the whole issue of the family. From the research, can you conclude who has the greatest impact on early childhood education attainment of the child—the school or the parent?

Mr. FORGIONE. They both have a significant impact. We just recently released a report I can send you on fathers. I wish I had had that when I was a school principal. Fathers make a difference, especially in the lives of families that are one-parent. We never had that evidence before. We know historically that mothers make a big difference, so fathers and mothers together make the most difference, but in the number of single-parent families, some of our new studies on fatherhood have shown us that some fathers are being heroic and making a big difference in terms of grades, retention, not dropping out, and we need to get that message out, because too often we do not think about it.

What we were trying to point out here is that this study is in the context of a very different demographic, and we have got to make sure when we report back to you that you can look at these issues as you like, and certainly family structure is an important external variable.

Senator HUTCHINSON. You have partially answered this, but from the research available, what are the qualities of families that do the best in preparing a child for school? Obviously, a two-parent family, from what you have said would be the best, but are there other qualities, like the reading——

Mr. FORGIONE. If I could take you to the chart on page 25, in this telephone survey of households, we tried to ask questions that were, again, proxy measures, but more direct, about what you are

doing—as I pointed out earlier, the ability to work with your children on numbers and numeracy and literacy, those kinds of issues. So this is certainly important. The issue of reading aloud to your children has been seen to be highly correlated—again, not causal, but highly correlated—with good achievement. But again, we are bounded by this correlation because we do not have a longitudinal dataset that could help us follow certain students and see, with poor kids who participated in Head Start and those who did not, what happens over time—do they make it up, or do they never make it up?

So this is the nature of the early childhood design that is going to try to look at these issues. The factors that are listed here are the ones that we thought were important, but they are really pedestrian. I mean, they are not the kinds of things we can do in the early childhood study, where you can talk to parents, you can test children, teachers one-on-one with their students, and you can really get an understanding of psychomotor skills. So those are the kinds of new datasets, and therefore, I think these are the best measures if you want to ask what existed—we tried to measure, but we could only do it over a telephone, asking parents' perceptions, and we know that that can be——

Senator HUTCHINSON. Doctor, when you gave the statistics on those who read with their children every day, of course, common sense would say there is an obvious value there. Then you demonstrated the differential between parents who graduated from high school or college versus those who did not and the amount of reading they did with their children. As you were giving that, I was tempted to say, okay, there is an obvious value, and there is an obvious gap—now, how do we solve that—give us that answer. I know that that is not your job, but if in fact the great influence there is the family—and I think most of us believe that it is—and we see this differential, what do we do as public policymakers? How do we make the difference, and how do we narrow that gap and ensure that children are getting that kind of cognitive stimulation from their parents by reading with them or whatever every day? I think that is something that we have to wrestle with.

Mr. FORGIONE. I am sure my colleague here this morning will offer much of that from the research side, and then you have to judge where the best investments are. But certainly it is a dynamic field, and hopefully my colleague will reinforce whether I accurately presented the kinds of issues, because one has to be careful in this field that we are being open and asking the right questions and bringing good data, because the worst thing we can do is collect poor data and have you generalize off of that.

We will have the scrutiny of the American public looking at this study, and obviously, we hope we will be equal to that task for you, and when my colleague presents, I will be anxiously taking notes and seeing if we are looking at the right issues and factors.

Senator HUTCHINSON. I just thought of this, but in the section—I think it is on page 8—where you talk about the changing nature of the family and how different it is in the nineties, I assume that when these studies are done, the demographic information is there so that you could analyze the effect of divorce, cohabitation, out-of-wedlock birth, those various factors, on achievement. Has that kind

of correlation been made, and what have you found on the impact of those kinds of things on readiness to learn?

Mr. FORGIONE. We do not have any data yet. I am not familiar in the literature. I could ask my colleague; maybe the other presenter would know. That is why we wanted to study that—you are correct—we want you to be able to ask and be able to get an answer to that question.

The effect of poverty over time in the elementary/secondary system is pretty demonstrative.

Senator HUTCHINSON. Just one thing—you emphasized the erosion of the family into the one-parent family as being primarily an economic impact, and I am wondering if, regardless of income level, there is not an effect upon readiness to learn.

Mr. FORGIONE. We are dealing with the social capital issue of all of it together and how it impacts on the student in terms of——

Senator HUTCHINSON. But with raw data, I would think it would be easy enough to ask whether, on middle or upper income, it also affects readiness to learn in children who are growing up in that kind of home.

Mr. FORGIONE. Yes, I think we can do those by variate analyses once you have that data.

Senator HUTCHINSON. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. What are your time constraints, Senator?

Senator HUTCHINSON. It is just you and me, and I can stay.

The CHAIRMAN. I was going to say I can go another hour or so, so if you can stay, I wanted to continue a little bit with the doctor and then go to our next witness.

Senator HUTCHINSON. Certainly.

The CHAIRMAN. And I would ask Dr. Forgione if he would not mind staying for the testimony of our next witness, also.

Mr. FORGIONE. Certainly.

The CHAIRMAN. I guess one of the things that disturbed me more than the TIMSS results was that the AFT several years ago did a comparison in the GED tests—I do not know if you compared those—but I was embarrassed at how easy ours was and terrorized at how difficult some of the other countries' were in terms measuring what they must have to be considered to have gotten adequate math in high school.

That brings up the question, is it real world stuff with TIMSS? Are they similar in the sense of how they measure performance, as in some of these countries where it is real world kinds of things, as well as relatively complicated math?

Mr. FORGIONE. If I could ask you to go to page 23, in the fourth and eighth grade tests, for the world, it was 9-year-olds and 13-year-olds—in America, we call it fourth and eighth grades. You can see the curriculum areas—geometry algebra, probability, data representation, earth science, life science. The fourth and eighth grade tests were curriculum-driven tests.

Forty-one countries got around the table. Germany and France put a lot of geometry in eighth grade. We know that in America, probably 5 percent of our children at the most are taking geometry

in eighth grade, maybe 20 percent taking algebra. In France and Germany, all the kids take it.

But again, it is an international test, TIMSS—remember, it is not an American test—so you have got to agree to a framework. Basically, those tests were more curriculum-oriented. That is why the States are signing up for it—because Missouri wants to know—they are teaching geometry, and how are they doing—and then, how are they doing not just against Arkansas or Kansas, but against high-performing countries.

When you get to 12th grade, Senator, that is where we had two sets of instruments. One set was literacy—mathematical literacy—we called it mathematical knowledge—and science knowledge. There, we would really get into problems that students had to solve—I mean basic stuff.

The math test was anchored internationally at a seventh grade level. For America, it took until ninth grade for every child to get everything on that test. So again we see a slippage. Why does it take until ninth grade for all kids to get this general knowledge, when in other countries typically you get it by seventh grade? And this slippage gets at the issue of what is being expected. But that test definitely was real world applications.

There were two other tests at the 12th-grade level—a specialist test, a test in physics and a test in calculus. Those are very different. So the fourth grade test was curriculum-oriented on a framework that the world developed, the 26 countries, at grade four, the 41 countries at grade eight. When we came to grade 12, the end of secondary—you see, some countries end secondary at 14th grade. Some countries let kids leave at 9th, 10th, 11th. We sampled in every one of those cohorts. I think Switzerland had 30 samples, because they have different cantons, and they let kids go in 9th grade, 10th grade, 11th, 12th, 13th, 14th. So to get a national sample, you had to pick a sample from every group. In America, Norway and Australia, it was only 12th grade, because that is where we end school, but it is called "the end of schooling survey." So your point about the low expectations is very correct, Senator Jeffords.

We have a math study, a video study, of grade eight. I would just ask you to watch one Japanese video lesson—it is only 12 minutes—and see the mathematics that is being presented in eighth grade, a half-probability sample—this is the norm for Japan—and compare that to the American geometry lesson and see the way that the teaching, the group work, the individual work, the board work interacts in a whole. That is what improvement is about. It is not just having better curriculum or better textbooks or better teachers. In education, you have got to make it happen.

The video study has told us that there is not rigor in middle school math in the United States. We keep pushing arithmetic, but we do not introduce mathematics, and that is something that America has to decide. If we were high-performing, you would not care, but since at eighth grade, it looks like we fell below the international average in math, we might want to reexamine. These are hypotheses, these are not causalities.

So you are right, Senator Jeffords, this is an issue about lower expectations in terms of rigor and focus.

The CHAIRMAN. It seems to me that for our purposes in terms of the Elementary and Secondary Education Act, these are the essential things as we look toward especially providing the work force. If you look at their schools compared to ours with respect to preparing young people to come out of high school with good jobs paying $10, $15, and $20 an hour, ours generally come out in the $5 an hour area. I think that that is very important for us to understand, because we are just not doing it, at least as far as our businesses are concerned.

I was amazed, and I am sure you read the Harvard Business Report on Motorola and the study on the problems they found, and that the problem was not only that they did not know the math, but that they could not read the question to determine what the problem was.

Mr. FORGIONE. If I could do one advertisement, Senator, the TIMSS test, the 4th, 8th and 12th grades, if you go to the cover sheet of our web page, we link to Boston College, and you can pull down half the items. We decided to give half the items away, because America's teachers are hard customers, and until they saw what do you mean by geometry at fourth grade—show me the item, show me geometry at eighth grade—I am very pleased to say that half of the TIMSS items are out there. Your Eisenhower Network that you are funding is using them—the science collaboratives. So TIMSS is really giving people a reality, not just the word "geometry"—show me that isosceles triangle, and what problem are you asking me to solve at what level? So that is very correct, Senator Jeffords.

The CHAIRMAN. Thank you very much.

Senator Hutchinson, do you have anything else for Dr. Forgione?

Senator HUTCHINSON. No, Mr. Chairman.

The CHAIRMAN. Please stay with us, if you do not mind.

Mr. FORGIONE. Oh, I will. Thank you, Senator.

The CHAIRMAN. Our next witness is Faith Wohl, who is a former staff member of the National Performance Review and current president of the Child Care Action Campaign.

Welcome, and please help us out.

Ms. WOHL. Good morning and thank you.

Thank you very much, Senator Jeffords and members of the committee. Thank you for holding this hearing on the important question of the readiness of our young children to learn once they enter school, and thank you for inviting me to participate.

We know, of course, that children learn from the day they are born provided they are in an environment that supports and encourages their development. Children's preparedness for school depends on many things—their physical health and well-being, their social and emotional development, their use of language, and their cognitive knowledge. Their readiness for all early learning, including elementary school, requires the combined efforts of families, communities and schools to provide high-quality care, stimulation and good health throughout the first 5 years of life.

Kindergarten and first grade teachers are quick to point out that they know almost from the first school bell in September which children will make it and which will not. They will tell you that they do not need any more studies; they know which children come

from high-quality preschool programs and which do not. They know very soon which children are ready to learn and which are not.

Now, I am not an educator by profession or experience, nor a statistician or a researcher, for that matter. Instead, I first became aware of the link between good-quality early childhood programs and first grade performance when I had the privilege of studying the French child care system nearly 10 years ago. I was then a human resources director for the DuPont Company in Wilmington, DE, and I was invited to be on a 14-person team that was sent to France by the French-American Foundation. We were there to determine whether there were lessons from the French system that could provide practical ideas for the United States.

We learned many memorable things in France as we studied and experienced their superb child care and preschool programs. One that was outstanding both in its impact on me and its relevance to today's hearing was the fact that national French data showed, 10 years ago, a positive correlation between the number of years in preschool and the rates at which children from all socioeconomic backgrounds pass their very tough first grade reading exam, which they considered a good indicator of subsequent school success. These data confirmed the French believe that preschool is an effective counterbalance to other differences, such as region and background, because its aims are the same and its programs are the same for all children in the country.

As I have told colleagues and associates many times, I came back from France an angry woman but also a determined one. I was angry because I had seen in my 2 weeks there a level of quality in early childhood programming that was available in only isolated instances here but was virtually universal there.

As I told a group of French and Americans at a gathering in Paris then, I had visited many child care centers in the United States, and it was a rare one that passed with I called "the Emily test." This was my visceral grandmother's question—"Would I leave Emily here?" Emily was then 10 months old and the youngest of my grandchildren. But in 2 weeks in France, every early childhood setting that I had seen passed that demanding test.

My determination focused on what action I could take on returning to the United States to improve the quality of child care and early education and thus enhance the ability of our children to succeed in school.

My first effort in this regard was to institute at DuPont a program that we called "Flying Colors," which used corporate financial incentives to encourage child care programs to pursue professional accreditation through the National Association for the Education of Young Children. This was a way to persuade child care providers to reach for standards of quality that were higher than State licensing requirements, which I am sure you know are very minimal, and it was a way to communicate the message that, as a company, we believed in the importance of good-quality care.

When we started, Delaware had only one center in the entire State that was professionally accredited, and within a fairly short time there were more than 40 accredited programs—and that number continued to grow, but I have been gone for 5 years, so I do not know where it is now.

I left DuPont in 1993 to come to Washington to join the Federal Government as director of the Office of Workplace Initiatives at the General Services Administration. In that role, I would for the next 4 years oversee 100 child care centers for civilian employees in Federal buildings across the country. I was delighted to learn when I got there that GSA had already instituted in 1992 the requirement that all the centers under its oversight become accredited. As director of that program, I continued to drive the pursuit of accreditation as one means to assure a common standard of quality across all of GSA's centers, and when I left in December of last year, more than 75 percent of GSA's centers had achieved accreditation.

At the end of last year, I joined the Child Care Action Campaign to be a full-time, full-fledged advocate for quality child care. What strikes me forcefully now—and I will confess continues to make me angry—is that while we know that good-quality child care and preschool education help children enter school ready to learn, we have not taken the steps as a nation to act on that knowledge.

When Congress passed the Goals 2000: Educate America Act in March of 1994, it declared that, and I quote, "by the year 2000, all children in America will start school ready to learn." However, it did not provide new funding or new programs to assure that we would meet this goal. It would be as if we had declared our national intent to go to the moon and back in a decade but had not created NASA or a new space center to make sure that it happened.

The law further called for access for all children to high-quality preschool programs as one key means to reach the readiness target, but we find ourselves now, at the end of 1998, very far from that goal in terms of both access and quality.

In fact, the landmark study, "Cost, Quality and Child Outcomes" in 1995 found that the quality of care in more than 80 percent of child care centers in the United States is poor to mediocre. In 40 percent of infant and toddler rooms, caregivers did not even follow basic health and safety practices. Experts in the field would confirm that the situation today, several years after that study, has not changed.

To compound the problem, while some parents struggle to find appropriate child care in their communities, those who do find good-quality care most often discover it is too expensive and settle for care they can afford, which is often unlicensed and developmentally inappropriate.

Unless we take steps to make sure that good-quality child care and early education are available to every family that needs it, that caregivers are paid appropriate compensation instead of poverty-level wages, and that child care fees are affordable to parents, we not only will not meet the school readiness target in the year 2000—we will never meet it.

In fact it is clear now that we have already missed the goal established in the law. But that failure has been met with silence and apparent lack of concern, when I think we should be in a national uproar over the opportunities our children have been denied.

Our failure to meet the year 2000 goal also means that the gloomy predictions of the Hudson Institute's "Workforce 2020," a

report they published last year, will in fact come to pass. The report pointed out that, and I quote, "While millions of Americans with proficiency in math, science and the English language will join a global elite whose services will be in intense demand"—20 years from now—"other Americans with inadequate education and no technological expertise will face declining wages or unemployment."

In short, by failing to ready children now for their education in school—all children—we condemn them to second class status in our society for the rest of their lives.

Our quality crisis in early education is actually a crisis of funding, and solving it will require a big investment. In my opinion, that will require a radical shift in our priorities and our focus. We will have to get past the apparent constraints of the present and acknowledge fully that our children are the future of this country and the only future we have. They are our future work force, our future parents, our future citizens and the ones who will provide the resources to keep Social Security healthy. We simply have to start thinking differently.

Study after study has confirmed the fact that high-quality early childhood programming works. The Child Care Action Campaign will shortly release its own study, which is called "Right from the Start," which identifies 70 notably successful partnerships throughout the United States among child care, Head Start and public schools in low-income communities in 35 States. Success in the study is defined in terms of child outcomes, including improved readiness for and performance in school. These programs prove that we can ready children for school, even in difficult settings.

Recently, we also worked with the HighScope Educational Research Foundation in Ypsilanti, MI to release its newest study, which showed that obtaining additional external funding to supplement the fees paid by parents can produce high-quality programs where teachers are paid above-average wages and are thus more likely to make long-term commitments that foster their bonds with the children.

Another study in Rochester, NY showed that by doubling the number of children in publicly-funded early childhood programs over a 6-year period, the City of Rochester was able to reduce the incidence of serious learning, speech and motor skills problems in incoming kindergartners from 61 percent to 38 percent.

In another New York State study, Syracuse found that 4-year-olds who were behind their age group in skills and vocabulary were able to catch up in most cases only after a few months of pre-kindergarten programs. In less than 5 months, the proportion of children working at or above a 4-year-old age level increased from 21 percent to 81 percent in their study.

In short, I believe that we in the United States already know what the French first taught me nearly 10 years ago: Quality early childhood programs result in readiness for school and better performance in school. The difference—and I think it is a critical one—is our inability or unwillingness to act on the knowledge we already have. And that is what I think has to change.

I would like to close my comments by quoting the founder of our organization, Mrs. Elinor Guggenheimer, who said this in 1992: "I

52-734 99 - 3

want to see an entirely new approach to education—a system that recognizes that children learn from the moment of birth, that education is a continuum in which the formal school system plays only one part. I want to look at the human animal in a new and fresh way, with an understanding of what may be lost in any 1 year due to neglect, poor nutrition and lack of cognitive stimulation. How do we take the newborn infant and begin and continue the process of developing an adult who can survive and contribute to a technologically-oriented democratic society? How can we integrate toddler care, preschool care, out-of-school care and the formal educational system?"

Until we can answer Mrs. Guggenheimer's questions, the answer to the query posted by this hearing, "Are our children ready to learn?" unfortunately will be no—not all of them.

The critical question now is what we as a nation are prepared to do to recommit ourselves to this goal and to the necessary actions that will assure that we get there. To do less is to abandon too many of our children to a future that none of us in this room would accept for our own children and grandchildren.

Thank you.

[The prepared statement of Ms. Wohl may be found in the appendix.]

The CHAIRMAN. Thank you very much. That was very helpful testimony.

Throughout your testimony, you talked about accreditation. Can you explain what child care accreditation is and why you believe it is so important in efforts to improve the quality of child care?

Ms. WOHL. Yes, I would be glad to. First of all, you understand that the States set the requirements by means of which child care centers are licensed. It was very interesting and challenging when I was at GSA to operate a system of 100 child care centers in 37 States and recognize that every State had different requirements that we had to meet. But those requirements, while they are various, are all what I would call relatively minimal in terms of establishing a floor of quality—they are not a guarantee of quality, but they set a minimum standard below which it would put children at risk if they were in a program that did not meet those standards. And the differences among States are very broad, and some are so terrible that I do not know how children really can survive in the environments they create.

If you want to encourage child care providers to reach for a higher standard of quality than minimum licensing requirements, the National Association for the Education of Young Children, which is a professional organization in the field, a very large professional organization, has set a process in place by means of which centers can go through a very detailed and comprehensive and in many ways burdensome process of self-evaluation, a very detailed set of criteria that they have to evaluate every aspect of their program against. And once they reach their conclusions about how they score in each of these attributes, then NAEYC sends in a validation team to work with the center to either accept their findings, which would involve the findings of the administration of the center and the teachers at the center and the parents of the children in the center, and the validators would either accept those findings or re-

ject them and maybe, if there were not too many things wrong in the minds of the validators, suggest some specific ways that they could improve and then defer accreditation until those criteria were met.

When I was at DuPont, and we looked at the issue of why so few centers were accredited, we talked to a number of centers, and they told us it was, first, very burdensome, and they had very few staff resources to apply to it; second, it was expensive—there are fees attached to this, and third, they were concerned that if there were improvements that they had to make, they did not have the financial resources to make those improvements.

So in the program that we set up, we provided technical assistance to overcome the burdensome nature, or at least to ameliorate somewhat the burdensome nature of the process, and we provided financial incentives that paid the validation fees and also provided relatively small stipends either for family day care homes or for day care centers that would allow them to make modest improvements. And it worked, in that everywhere we turned in communities all across the country where we did this, there was a great response, and the idea was planted in the child care community that there was a way to assure, despite varying State standards about licensing, a common standard of quality across the country if we could commit to the NAEYC standards.

I remember, for example, as I said in my opening comments, that in Delaware, there was only one center that was accredited, and I think within 2 years, we had 40. In Jackson, MS, when GSA's center there became accredited, it was the first center in that city to ever be accredited. What happens when that occurs is that other centers understand that something has changed in the marketplace and that they need to think differently about the level of quality they have to seek.

So it is very much a self-study process, elaborately constructed by people who understand child development; it looks at program, it looks at facilities, it looks at curriculum, it looks at health and safety in a minimal way, and it looks at the important things such as teacher training, the maintenance of health and safety records on the children, and the intangible qualities of interaction and relationships between staff and children.

The CHAIRMAN. We will go 5 minutes back and forth, Senator Hutchinson, if that is all right; so go ahead, please.

Senator HUTCHINSON. Thank you, Mr. Chairman.

Thank you for your testimony, Ms. Wohl. In reading your testimony—first, we were very moved and impressed by the French system that you observed during your time there—and you advocate a kind of universal child care and early education for every child in the United States. So my question would be what kind of early education—you mentioned nutrition, and you also mentioned cognitive stimulation—so what do you see specifically as the ingredients of a good early education program, and at what age should that program start? When you speak of "the Emily test," that is a little bit subjective, and I think everybody would have a little different idea as to where they would leave their children—so what do you envision?

Ms. WOHL. Well, it is very subjective. I did not pretend that it was anything else. But it is a surprisingly good barometer, because a lot of what you see in measuring the quality of an early childhood program is intangible; it is not something that you can set down and say it is all about curriculum. It is all about relationships. It is about children learning to trust adults. It is about children beginning to build relationships with each other and learning how to work together.

There was a book written by a business leader, Robert Fulgum, who said that everything important that he needed to know in life, he learned in kindergarten. Well, if you think about some of the things that are taught in early childhood programs, they really are ways in which children learn to manage themselves, ways in which their curiosity is excited. Yes, a good child care program will have ways in which to encourage pre-literacy skills, but most educators at that level will say that while those are important, they are not the most important; that what is truly important is the issue of helping the child to develop to his or her fullest, because those are the years of greatest development, the first 5 years of life, and they all occur before formal school, or what we know of as formal school, really starts.

So what has to happen in order for that potential to be realized is that children have to come in contact with highly-trained child care providers who understand child development, especially child development of very young children, and who are trained in it and who have, ideally, degrees in early childhood development.

What we have instead in most of our programs are caregivers who are paid the minimum wage. Seventy percent of all child care workers in the United States earn poverty-level wages or below. Most of them have no more than a high school education.

One of the most potent contrasts with the French system is that they train their early childhood teachers in the same institutions where their elementary school teachers are trained—in fact, they share the first 2 years. At the 2-year point, one group goes in this direction, and the other group goes in this direction, to get intensive training in the specific development of the years that they are going to be teaching, whether children before the age of 5 or children over the age of 5. And when they graduate, they are all paid the same.

So the people who are teaching in French child care programs have the same education and the same compensation and the same professional recognition as teachers in elementary schools. In my mind, I think that would be one of the important measures of whether we have a quality child care system in this country or a set of 50 quality child care systems, because of course, child care is really in the hands of the States—that the people who are running the programs and the people who are teaching the children and interacting with them on a daily basis are highly-trained teachers.

Senator HUTCHINSON. In Arkansas—and I think we are improving the situation—but child care is expensive, and an awful lot of working parents will leave their preschoolers with the grandparents. Well, they are not highly-trained; they may not be edu-

cated—they surely do not have a degree in early childhood education.

Ms. WOHL. Well, I am a grandparent. I have eight grandchildren. I take care of them one or two at a time. I do not have a degree in early childhood education—but I also do not take care of them—and many grandparents do not—for 10 hours a day, 5 days a week, and manage an entire group of children who are at various stages of their personal development. That takes a different set of skills than grandparents.

I think hidden in your question, however, is another thing that I want to be sure we look at, and that is that for many families, grandparents are not available, so that if you have loving grandparents who really had the interest of a child at heart, I think that might be a very good system for children in the first couple of years of life if the parents themselves could not be there. But once children turn 3, my educator friends tell me they really benefit from a group setting where they can begin to learn how to deal with other children and not just be loved and cared for and provided with food and safety by their families in a family setting.

I think the critical difference is the ability to manage a group of children and to understand the various developmental stages they may be seeing in many children at a time.

Senator HUTCHINSON. Mr. Chairman, please tell me when my 5 minutes are up. I do not want to go over.

The CHAIRMAN. I am watching very carefully, yes. You have another minute.

Senator HUTCHINSON. Would you suggest, then, that all children would be better off in a preschool program of some sort at age 3? It seems to me that is what you are suggesting.

Ms. WOHL. Well, let us understand that I am not suggesting children be removed from their parents——

Senator HUTCHINSON. You said that the social setting——

Ms. WOHL. I was simply commenting on your question about whether grandparents could not provide, without the benefit of early childhood training, the same benefit to these children, and I say yes, up to a point, and at a certain point, these teachers that I tell you about in first grade know which children have been in preschool and which have not because they are further along in their development by and large.

But I really want to comment on the word you used, which was "removed". We have to understand that our children are not home, by and large, with their parents today anyway. More than one-third of children below the age of 5 are in child care centers, and at least another one-third or more are in the care of people other than their parents or grandparents. That is a function of the changing family unit today and our changing economic environment which demands that both parents work, or in the case of the growing number of single-parent families, that that parent is in the work force.

So there is no question now about taking children out of the home; it is a question of being sure that the environments that they are in because their parents are working are quality.

Senator HUTCHINSON. It is a question of where they are better off, though, and I think what I heard you say was that teachers

can tell which ones have been, and that there are certain things that they cannot get in that family setting that they could get in a social setting.

Ms. WOHL. That is true. They may be able to get it in a large family where they have a lot of children, but that is not the typical family today. And certainly the studies that I cited in Syracuse and Rochester, which begin to make the same correlation that the French do between the number of years in preschool and children's success in school, would bear that out.

Senator HUTCHINSON. And the French data that you refer to, could you make that available to the committee?

Ms. WOHL. Yes, I would be happy to make that available. It is 10 years old, and I have the data that are 10 years old——

Senator HUTCHINSON. And it shows a positive correlation between the number of years in preschool and the rates at which children from all socioeconomic backgrounds——

Ms. WOHL. Yes. I would be glad to send that to you—or, I will submit it to the committee if that would be more appropriate.

Senator HUTCHINSON. Thank you.

The CHAIRMAN. Ms. Wohl, we talked about your accreditation system. It is my understanding that actually, there are a number of other accreditation entities, I think the majority of which are associated with religious organizations. The National Association for the Education of Young People is just one of I think more than a dozen professional entities like that. Can you tell me a little bit more about how they communicate with other, or what kinds of standards they use, or how they develop their standards?

Ms. WOHL. I wish I could respond positively to your question, but I cannot. The accreditation process that I am familiar with and that we used in my life in the private sector and in my life at GSA is the one at NAEYC, which is widely considered in the field to be the best accreditation system.

However, if centers or family day care homes wanted to pursue another form of accreditation that again accomplish the same goal of lifting their standards above minimal licensing requirements, I certainly would not do anything to discourage that. But the one that I am most familiar with and which I think offers the best potential for increasing quality is the one at NAEYC.

The CHAIRMAN. Dr. Forgione, do you know anything about the differences between accreditation standards; do you have any data as to the effectiveness?

Mr. FORGIONE. I could try to do some research for you, and my colleagues may know of it. I know it is a State system——

The CHAIRMAN. They are shaking their heads, no—just to let you know what they think. [Laughter.]

Mr. FORGIONE. I know that when I was State superintendent in Delaware, we had the same experience, that there was not a lot to draw upon; it was very idiosyncratic. NAEYC was the one that was evolving. But they tend to be input and not output standards, so therefore you want to miss them both in the accreditation system and look at input and output processes.

Ms. WOHL. That is true. One statistic—I said I was not a statistician, and I am certainly not—but one statistic I might offer, just to put it in context, is that there are more than 100,000 child care

centers in the United States, and fewer than 6,000 of them are currently accredited by NAEYC, which shows that there is a lot of room to develop that process and to assure that other centers reach for a higher standard of quality.

Those that are accredited tend to be those that are managed for employers or those in the military or those in settings like the Federal buildings where GSA oversaw the centers. It tends to be more where there is an outside organization overseeing the idea or the intent to have a quality program that the center is encouraged to become accredited. For example, the largest company that manages child care centers for corporations—a company called Bright Horizons Family Solutions—has 255 centers under their management for some of the largest companies in the country, and they have a requirement that all of those centers be accredited.

The CHAIRMAN. That is something that is very difficult, let me say, to try to get into accreditation from a national perspective, and I am certainly not going to recommend that we try to do that. But I do know there is a need to try to determine the effectiveness of different methodologies and what kinds of standards are effective in getting the results desired so we can at least give some guidance on that aspect.

This is just anecdotal information, but we tried to provide some through GSA, and as you know, mysteriously, it passed both the House and the Senate, but it disappeared in that great, big bill that was looming there because a staff member walked in and said, "I do not like it," and that was the first time I had seen a reaction of some staff member who was not even a Member of Congress end up doing away with something I thought was—well, I will stop there.

Ms. WOHL. Some providers, I hasten to say, do not like it because they know that what it is going to require is an increase in their costs and that they will then either make less money or they will have to raise prices for parents, and parents are already terribly strapped.

Another statistic—I am getting in my own way—on that score, is the question of affordability—because I think these two are very closely linked, the questions of quality and affordability—today, of every dollar spent on early childhood programs, including Head Start, any form of publicly funded pre-kindergarten, child care centers, the whole range of programs, for every dollar that is spent, parents pay 60 cents out of that dollar, various levels of Government pay 39 cents, and the private sector pays one penny. And for the average parent, that is 60 cents—and for some parents, of course, it is 100 percent, because it is only parents who get subsidies of one kind or another who pay less than the cost that is charged—but overall, on average in the country, 60 cents out of every dollar is paid. And for parents, that 60 cents is extremely difficult. On average, the cost of reasonable quality care across the country is more than $4,000 a year, and in cities like New York and Washington, it can be $8,000 or $10,000 a year per child.

So we really cannot look to parents to pay any more money than they are currently paying—in fact, it is an inordinate percentage of their family budget, often second only to food and their mortgage payment, that they are paying for child care.

So that providers who are sensitive to the economics of the families they serve are very hesitant to reach for a higher standard of quality which will cost the provider more and will ultimately result in even higher prices.

The CHAIRMAN. Senator Hutchinson?

Senator HUTCHINSON. Thank you, Mr. Chairman.

On the issue of accreditation again—actually, your testimony as a whole is a pretty strong indictment of policymakers and lawmakers—on the accreditation issue, the DuPont initiative that you were involved in was privately funded and was an incentive program. As you say, though, there is very little funding coming from the private side. Do you see a better approach—do you see the Federal Government getting involved in the accreditation process as being a better alternative to working within the States, trying to see them raise those very minimal standards on licensing requirements? What is the best way for us to go about achieving an increase in the quality of day care?

Ms. WOHL. First of all, I would like to say that I did not intend for my testimony to be an indictment of policymakers or the Government. I intended it to be an indictment of the American people, because I really think that that is where the issue has to change in terms of public will, which then drives policy, ideally. So I wanted to set that straight. Nor am proposing a program of Federal accreditation of child care centers.

What I do think would be helpful is some strong signal from the national level that accreditation—or, let me say it another way—that higher quality is necessary and important. I think it was as important as the financial incentives that DuPont was providing to child care providers. I think it was as important to the whole community served that a company like DuPont, which was known for its technological prowess and scientific research, was saying to the community as a whole that quality child care is important to us—it is important to us as a company because it is important to the parents who are our employees, but it is also important in terms of the effect it can have on future employees and on the citizens who are going to be our neighbors in the communities where we have operations.

So rather than proposing any system of Federal accreditation, I think there needs to be a national call for higher quality. I think it is disgraceful that 80 percent of our centers are poor to mediocre, and that rating was applied to them by a group of topnotch early childhood researchers at some of the best colleges and universities in the country in the study that I cited in 1995.

If you visited any programs that would fall into that category, you would be as appalled as I am, and the idea that 80 percent of them are like that and that in 40 percent of the rooms that take infants, like my grandchildren, they are not even following basic health and safety practices, I do not know how we sleep at night over that.

Senator HUTCHINSON. I have visited a lot of day care centers and child care centers, but let us assume for a moment that the 80 percent figure is right. Do you have specific proposals or ideas for us in the reauthorization of ESEA on how we can address the problem to which you make clear reference here?

Ms. WOHL. I do not know how it can be done through the reauthorization of that Act, or if it can be, but I do think that one thing that will help in this regard is to accelerate the momentum of the move toward universal pre-kindergarten programming, which Georgia has led and which New York State is now in the first year of implementing and which has been implemented in small sectors of about 39 States in the country.

I really feel the schools have an important role to play because of the resources and leadership that they provide in the community.

Senator HUTCHINSON. Can you define "universal pre-kindergarten programming"?

Ms. WOHL. Well, let us say that any 4-year-old child whose family would want that experience for that child would have access to a public——

Senator HUTCHINSON. That is universally offered.

Ms. WOHL. Universally offered and publicly funded—but it would obviously be voluntary.

Senator HUTCHINSON. At 4 years old?

Ms. WOHL. And lower. I believe that ultimately, it ought to be available in the period 3 to 5, largely because, again, we have to recognize the reality of families today who need this very expensive child care that I talked about for 5 years. If we had publicly funded pre-kindergarten programming, it would alleviate some of the financial burden and, ideally, would improve the quality of the offerings.

Senator HUTCHINSON. Universal pre-kindergarten available and publicly funded—that is an other way of saying publicly funded day care. I mean, the pre-kindergarten program available to parents would in effect be a child care provider and many—and I do not want to put words in your mouth; I am trying to understand exactly what we are talking about.

Ms. WOHL. All right. Let me step aside and describe it to you briefly as the French do it. They call it preschool, or they describe it in French as "ecole maternelle," or "maternal school." This is available to children from age 2½ through 5, and it is voluntary. It is 6 hours a day. But it is not child care because it is not designed to meet the needs of working parents; it is designed to meet the developmental needs of children.

Now, obviously, it benefits parents who work, but it is not designed for them; it is designed for their children. The result is that 98 percent of children in the age group that we are talking about go to the preschool program, 98 percent, whether their parents work or they do not. So in trying to relabel it as "child care," I would prefer that you thought of it as preschool or early education.

Senator HUTCHINSON. OK. Dr. Forgione—did I say your name right? I have been hesitant to say it all day, because I was afraid I would say it wrong. In the recent report, how did France compare overall in academic achievement, both beginning at the first grade level and at the 12th year?

Mr. FORGIONE. I know that at the 12th grade level, and in mathematics, France has done well, generally. I think their only middle level in fourth grade——

Senator HUTCHINSON. My recollection is that France did not particularly outperform the United States.

Mr. FORGIONE. At the end of the system in mathematics, France was one of the international top presenters; in science, they were much weaker, but I think they got stronger through the system relative to other countries, if I can remember the results.

I'm sorry—in the reading results, not the TIMSS?

Senator HUTCHINSON. Well, anything you can give me on comparison.

Mr. FORGIONE. On page 24—and I apologize; this hearing came up very quickly, and I thought I was going to use the testimony, but we decided to customize it for early childhood—you have something from the Reading Literacy Study, and France was in the middle group at grade nine, with America, second only to Finland—like the United States—and at grade four, they were just below us. So it looks like a pretty strong performance in terms of their counterparts.

The CHAIRMAN. That is in reading, right?

Mr. FORGIONE. Yes, that was reading. And in our "Condition of Education" which just came out, we do have a chart where we take the GEA, because that would be a good reference group for us, and we tried to show you the relative performance of other countries. I do not have this internalized yet, because I have not looked at it, but it looks like France did pretty well. They did not participate at grade four, though. You see, in TIMSS, you had to do the 13-year-olds, and many countries did the 9-year-olds with it. France chose to do the end-of-schooling, so they did not do the early, but they did the middle and the high school. So we do not know in math and science how they would have done.

Senator HUTCHINSON. But we know at the end.

Mr. FORGIONE. Yes.

Senator HUTCHINSON. I guess we need to look at it more closely.

Mr. FORGIONE. We can look at it for you.

Senator HUTCHINSON. If we are advocating that this is a model system that we ought to see in the United States, or if there are obvious benefits—maybe there are benefits other than academic—but if we are looking at these particular performance standards, whether there is any long-lasting or length impact of the kind of program that France has established, I think it would be worth examining.

Ms. WOHL. I would respectfully suggest that you might look at other than academic—I am not talking about France now, I am talking about all the measures of what is happening to young people, because all of those influence their ability to be productive citizens.

Senator HUTCHINSON. I agree, I agree. What kinds of factors are you talking about—crime, drugs, marital status, families——

Ms. WOHL. Right. If you look at where the United States is in virtually all of those parameters, we are at the top of the list for all the negative behaviors.

Senator HUTCHINSON. I am not sure I would accept that, but I do think those factors ought to be compared. It should not simply be academic, and I was not suggesting that.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Yes, Dr. Forgione?

Mr. FORGIONE. Senator, my staff has just pointed out to me that there is a study of kindergarten retention and a literature review about summer loss, and I would be happy to make that available to the committee. It was some of the studies that went into the design of the program.

The CHAIRMAN. I appreciate that very much.

We could go on and on, but unfortunately, I must leave. I want to thank you, and I hope you will be available to assist us as we go along.

This is an area that is so critical and so important for us to be knowledgeable in as we go forward, because this will be the first Elementary and Secondary Education reauthorization where we have the kind of knowledge we have now as to the importance of what happens in the early years. So we obviously have an obligation to look and decide what, if anything, we should do in this area.

Senator HUTCHINSON. Mr. Chairman, if I might just inquire, is there a hearing yet scheduled for ESEA reauthorization, and do we have a list of subjects that might be covered during those hearings, and if not—I know it is very early—at what point do you expect to have that?

The CHAIRMAN. We are in preparation of that list, but we are starting with the hearings. Basically, the design I had, just to inform you and others, is that we established the goals some time ago as to what the outcome of our schools ought to be and what we should be producing in the schools, and I think it is important that we analyze that and determine how successful we are in that outcome.

Then I want to get into teacher preparation and find out if the teachers are being prepared to provide that outcome and take a look at what changes we may need in our universities and colleges as far as the preparation of teachers. I am also very concerned that the teachers colleges have been treated sort of as stepchildren by the universities and as "cash cows" and so on, and they really do not pay much attention to the real professionalism of the outputs. So that is another area I want to get into right away, and we will start on that in January.

The third area is if we do have problems, as we know we do, how do we upgrade the professionalism of the teachers who are presently in the classrooms. We have 4 million teachers in the classrooms, and nothing is going to change to upgrade our output unless there is a change in the classroom, and nothing is going to change in the classroom until the teachers change, and the teachers are not going to change until they know what they are supposed to be doing.

So that is the course that I am on as we go forward, and I am open to suggestions and criticisms as we go along.

Senator HUTCHINSON. I thank you for that, Mr. Chairman. I applaud you, and I think that is a very good course, and I do believe that this reauthorization provides us and the country with a wonderful opportunity to reexamine education in the United States. I do have some ideas that might be helpful along the way that we might examine, because this is not only legislation, but I think it

is an important process that we go through, and again, I certainly commend you for this early, quick start.

The CHAIRMAN. Well, I am pleased that you are coming on the committee again; with your expertise and background, you can be very helpful in reaching our goals, and hopefully, our goals will be able to assist the national goals.

Yes, Ms. Wohl?

Ms. WOHL. Senator Jeffords, could you indulge me in one more comment, because when I heard your comments on teacher preparation, I was reminded of a lovely young woman who is a friend of our family who just became a first grade teacher. She came over for dinner shortly after she started in her first professional job as a teacher, and what she said really stuck with me. She said nothing prepared her—she was fine with the curriculum and all of that—but nothing prepared her for what it would be like to be working with kids coming from such impoverished environments, and that what she was most struck with at the moment in time and most worried about was the little girl in her class who did not have a warm coat for the winter.

It made me realize again that it is not only about what children know and can do; it is about who they are and where they come from and the very difficult circumstances under which many, many children are experiencing education. And somehow, that has got to be factored into our thinking about both teacher preparation and student outcome.

The CHAIRMAN. I would point out that in the Higher Education Act, we got into teacher professionalism, and we also made it clear that the so-called social promotion, which often gets down to those who come from impoverished areas, has got to go; that it cannot be acceptable to just push kids through school who do not have the outcomes that are necessary for our society.

Our next hearing will be 1 week from today, incidentally, and will be on the subject of literacy. We will have hearings even in early January before we come in, just from a political perspective, since there are no Democrats present. [Laughter.] Anyway, I feel very strongly that we have an obligation to get our message out on what we are going to be doing in education earlier, shall we say, because we did some wonderful things this last year, but somehow they got lost in the shuffle, and I want to make sure that does not happen. I am sure staff from the other side are here, and they will pass the word on. But I do think it is very important that we all work together on this incredibly important issue.

The hearing is adjourned.

[The appendix follows:]

APPENDIX

United States Senate
Committee on Labor and Human Resources
Washington, DC

Hearing On:
"Are Our Children Ready to Learn?"

Early Childhood Education:
Critical Data Needs for a Critical Period of Child Development

By:

Pascal D. Forgione, Jr., Ph.D.
U.S. Commissioner of Education Statistics
National Center for Education Statistics
Office of Educational Research and Improvement
U.S. Department of Education
555 New Jersey Avenue, NW, Room 400
Washington, DC 20208
202-219-1828 (Telephone)
202-219-1736 (Fax)
Pascal_Forgione@ed.gov (email)

NCES World Wide Home Page: http://www.nces.ed.gov

December 4, 1998

Early Childhood Education: Critical Data Needs for a Critical Period of Child Development

TABLE OF CONTENTS

Early Childhood Education:
Critical Data Needs for a Critical Period of Child Development

LIST OF FIGURES

Early Childhood Education: Critical Data Needs for a Critical Period of Child Development

I. Introduction

Student achievement is a basic indicator of a nation's ability to produce educated citizens, and a predictor of how students will fare in the labor force once they leave school. Increasingly, we are coming to understand that what children achieve in school is related, to no small degree, to what happens before they even enter school. Early childhood education has become a critical area of focus for the education community and for the National Center for Education Statistics.

I will first briefly review the latest student achievement patterns and trends in mathematics, science, and reading, and then discuss some findings in the field of early childhood education that suggest that early childhood education has a strong impact on achievement and success in school. I will present examples of national indicators of early childhood development that are currently available and used in national monitoring reports, discussing both their value and their limited usefulness in informing us about what is most important to know about the backgrounds, experiences, and outcomes of young children. Finally, I will discuss the National Center for Education Statistics' Early Childhood Longitudinal Studies (ECLS) Program which will address many of these critical gaps in our knowledge about children at such a critical period of their development.

II. Student Achievement in Elementary and Secondary Schools

A. *National Long-Term Trends in Science, Mathematics, and Reading*

Measuring students' academic performance has been the purpose of the National Assessment of Educational Progress (NAEP) since its inception in 1969. Students in both public and nonpublic schools have been assessed in various subject areas on a regular basis. In addition, NAEP collects information about relevant background variables to provide an important context for interpreting the assessment results and to document the extent to which education reform has been implemented.

NAEP enables us to monitor trends in academic achievement in core curriculum areas over an extended period of time. To do so, NAEP readministers materials and replicates procedures from assessment to assessment, always testing students in the same age groups (9, 13, and 17). In this manner, the long-term trends from NAEP provides valuable information about progress in academic achievement and about the ability of the United States to achieve its national education goals. In general, over the past two and a half decades the NAEP long term trends in science and mathematics show a pattern of early declines or relative stability followed by improved performance. In reading, minimal changes have occurred over the assessment period.

Science. The overall pattern of performance in science for 9-, 13-, and 17-year-olds is one of early declines followed by a period of improvement (Figure A). Science scores have increased for all ages tested since 1982 and the publication of *A Nation at Risk*. Average scores at all three ages were higher in 1996 than in 1982.

Mathematics. The overall pattern of mathematics achievement for 9-, 13-, and 17-year-olds shows overall improvement, with early declines or relative stability followed by increased performance (Figure B). Further, the scores of 9- and 13-year-olds were significantly higher in 1996 than in 1973. As with science, mathematics scores have also shown an upward trend at all ages since 1982 and the publication of *A Nation at Risk*.

Reading. The overall trend pattern in reading achievement is one of minimal changes across the assessment years (Figure C). The performance of 9-year-olds improved from 1971 to 1980, but has declined slightly since that time. Thirteen-year-olds showed moderate gains in reading achievement; in 1996, their average reading score was higher than that in 1971. There was an overall pattern of increase in reading scores for 17-year-olds, but the 1996 average score was not significantly different than in 1971. Reading scores have remained fairly stable between 1984 and 1996, the time period immediately following the release of *A Nation at Risk*. No significant changes at any age occurred during this time period.

B. *Subgroups Performance on National Long-Term Trends*

There are substantial gaps in the performance of whites and blacks, and whites and Hispanics in all three subjects assessed as part of the NAEP long-term trends: mathematics, science, and reading. In mathematics and science, those gaps have been narrowing somewhat since the publication of *A Nation At Risk* in 1983, while in reading, they have fluctuated but tended toward smaller gaps (Figure D).

Since *A Nation at Risk*, performance in science at ages 9 and 17 has been increasing more for black and Hispanic students than for whites. As a result, the gap between white and black student achievement has closed somewhat over this period; the gap between white and Hispanic students also narrowed, though this change was not statistically significant.

Average mathematics scores of black and Hispanic 17-year olds have also increased somewhat more than for whites since 1982. White students improved 9 points (on an 500 point scale); black students improved 14 points; and Hispanic students increased 15 points. The gaps between white and black students narrowed between 1982 and 1990, but has widened again through the 1990s. The gap between white and Hispanic students narrowed somewhat since 1982, though the change was not statistically significant.

Changes in reading were minimal for white, black, and Hispanic students at all ages during the years 1984 to 1996. As a result, the gaps between both white and black and white and Hispanic students in Reading since *A Nation At Risk* has remained about the same.

C. *International Comparisons of Mathematics and Science*

NCES uses a combination of international and U.S. databases to look at the performance of our students. The combination of both types of data is required to see ourselves in a stereographic or parallel perspective. U.S.-only data is blind in one eye, and international data is blind in the other. Both types of data are necessary for a clear and an accurate view of our students' performance. The Third International Mathematics and Science Study (TIMSS) assessed student achievement in math and science at grades four, eight, and twelve.

Our students' international standing declines as students progress through school, according to TIMSS. Overall, U.S. fourth-graders scored above the international average in both science and mathematics. Our eighth-graders scored above the international average in science but below it in mathematics. In twelfth-grade, the scores of both our overall student population tested on general mathematics and science knowledge, and of our more advanced students tested in mathematics and physics, were well below the international average.

Figure E summarizes U.S. performance by content area on the fourth- and eighth-grade assessments.

In a study linking the results of the NAEP and TIMSS in math and science, it was found that there is considerable variability across U.S. states compared with other countries. The highest performing states have predicted means significantly higher than the TIMSS means of at least one-half of the countries, while the lowest performing states have predicted means significantly lower than the TIMSS means of at least half of the countries.

D. *International Comparisons of Reading*

In 1991, the IEA* Reading Literacy Study assessed the reading literacy of fourth-graders (in 27 countries) and ninth-graders (in 31 countries). The underlying framework for this assessment paralleled the NAEP framework in that it too defined reading in terms of three text types - narrative, expository and document. In contrast to NAEP, this study painted a more positive picture of the reading literacy of American students (Figure F).

- American fourth-graders were outperformed only by Finland; U.S. students performed about the same as students from Sweden, while outperforming students from 24 other nations.

- American ninth-graders' performance was equivalent to that of students from 15 other nations; Americans outperformed students from 14 nations, while only the students from Finland did better than our students. [1]

*The International Association for the Evaluation of Educational Achievement

[1] The difference between NAEP view of America's fourth-grade students' reading proficiency and that emerging from the IEA data may be attributed to two very important differences in these assessments. First, there are distinct differences in the way that the data are benchmarked. NAEP reporting is based on comparisons of student performance against a desired standard defined by NAGB. Second, the IEA test mainly asks students to recognize details and to make simple inferences and literal interpretations while the NAEP test goes further, i.e., requiring students to identify themes to detect the author's point of view, to make larger inferences, and to state a position with supporting citations from the text.

E. *Summary of Student Achievement Results*

To summarize the academic performance of students based on national and international assessments:

- There has been a gradual increase in math and science achievement since the early 1980s;
- There has been little change in reading performance since 1980;
- Primary school students tend to perform above the international average in mathematics, science, and reading, but our international standing drops as students progress through higher grades.
- There are substantial gaps in the achievement of white students and their black and Hispanic counterparts that persist, though the gap has narrowed somewhat for mathematics and science since the 1980s.
- There is considerable variability across states in performance on NAEP as reflected in the predicted standing of states in relation to TIMSS countries participating in the eighth grade assessment.

These findings have raised concerns about the state of U.S. educational performance; in particular the absence of substantial overall improvement over time, the large and persistent subgroup differences in academic achievement, the decline in performance relative to other countries as students progress through school, and the large variability in performance across states. Many people are becoming interested in children's earliest educational experiences as a possible means of improving the level of achievement as well as reducing its variability.

III. Data on Young Children, Their Families, Early Care Programs and Schools

A. *Importance of Early Childhood Experiences*

There is increasing recognition that achievement in school is related to children's experiences prior to school. National assessments show that by fourth grade, there are already significant gaps in the achievement of black, Hispanic, and white children. Other studies demonstrate differences as early as the first grade. One study suggests that more than half of the gaps in achievement found between white and black 12th graders can be attributed to gaps that already existed at the beginning of first grade (Phillips, 1998). In a study comparing the average achievement of students in the top and bottom scoring schools in first grade, a 46-47 percentile point difference in achievement scores was found (Ralph, et. al., 1998).

Findings from research studies of children's brain development points to the critical importance of children's experiences during the first few years of life and the long-term effects these experiences have on children's development and learning. Cognitive ability is formed in a child's early years, and interventions that would increase that ability may be most effective at that point. In addition, some studies suggest a long-term positive effect of high quality early childhood programs on achievement and success in school.

Much of the recent public discussion on education has focused on the early years, children's development and learning during the early childhood period from birth to age eight, their preparation for formal school, the first school experience, and the progress they make over the first years of school. A number of important policy developments have contributed to this focus. The National Education Goal on school readiness reinforced the importance of children's early experiences for school success. President Clinton's 1997 State of the Union Address included the call for all children be able to read by the end of third grade; thus, emphasizing the importance of the literacy environment of children's homes and the primary grades in developing these critical skills.

B. *Current State of Early Childhood Data*

Although both empirical research and new policy initiatives have placed greater emphasis on the early childhood years, there is little in the way of data to actually demonstrate what preschoolers know and can do, and what factors were related to these abilities. Instead, national studies and monitoring reports rely upon proxy measures of early childhood abilities, conditions, or experiences to assess early childhood development.

The National Education Goals Panel recognized the need to monitor five critical dimensions of children's growth and readinesss for learning in order for the nation to meet its National Education Goal 1, "By the year 2000, all children in America will start school ready to learn." They endorsed the development of an early childhood assessment system that would monitor physical well-being and motor development, social and emotional development, approaches toward learning, language usage, and cognition and general knowledge. Since such a system does not currently exist, the Goals Panel has presented proxy measures in its annual reports on progress towards the Goals. For example, included in the 1992 Goals report were: 1) prenatal care; 2) low birthweight births; 3) health care and health insurance coverage; 4) immunization; 5) child nutrition; 6) parent-child literacy and arts activities and outings; 7) preschool and nursery school participation; and 8) preschool quality. The Panel later developed a Children's Health Index, which measured the percentage of infants born with one or more health risks, including late or no prenatal care, low maternal weight gain, mother smoked during pregnancy, or mother drank alcohol during pregnancy.

In 1997, the Goals Panel issued a Special Early Childhood Report which reported on the latest data for the above indicators, and also included an indicator of parental participation in family support activities. They plan to issue another special report on early childhood in the year 2000.

The National Center for Education Statistics has launched an early childhood component in our National Household Education Surveys (NHES) of 1991, 1993, 1995 and 1996. These surveys have enabled us to report to the nation regularly on such topics as access to early childhood education, characteristics of preschoolers, parent-child activities of preschoolers, and on the performance of children who delay entry into or repeat kindergarten. For example, in the 1993 survey, NCES reported the percentage of preschoolers with developmental accomplishments in the areas of literacy-numeracy, small motor skills, and their health status as reported by their parents. Literacy-numeracy measures included the ability to

identify colors and letters, to count to 20, to pretend to read or read stories, and to write their names. Small motor indicators included the ability to button clothes, hold a pencil properly, and to write and draw rather than scribble. Some findings included (Figure G):

- 57 percent of all 4 year-old preschoolers could recognize most or all letters;
- 62 percent could count to 20;
- 78 percent could write or draw rather than scribble.
- 23 percent had a short attention span

The Federal Interagency Forum on Child and Family Statistics has used two indicators from the NHES surveys as proxy measures for early childhood education in its annual monitoring report on child well-being, *America's Children: Key National Indicators of Well-being*. The first indicator is: Family Reading to Young Children, which measures the percentage of children ages 3 to 5 who were read to every day by a family member. Reading to young children has been found to promote language acquisition and correlates with literacy development and later on, with achievement in reading comprehension and overall success in school.

- In 1996, 57 percent of children ages 3 to 5 were read aloud to by a family member every day in the last week, up slightly from 53 percent in 1993. (Figure H)

The second indicator in the Forum report is Early Childhood Education, which measures the percentage of children ages 3 to 4 who are enrolled in preschool or early childhood centers. Participation in an early childhood education program can provide preschoolers with skills and enrichment that can increase their chances of success in school. Studies have demonstrated that participation in high-quality early childhood education programs can have short-term positive effects on IQ and achievement, and long-term positive effects on low-income minority children's school completion.

- 53 percent of children ages 3 to 4 yet to enter kindergarten attended center-based early childhood programs in 1996. While there has been an increase in participation among children living above the poverty line from 54 percent in 1991 to 58 percent in 1996, participation has been stable at 41-42 percent among those living at or below poverty (Figure I)

C. *Need for Better Early Childhood Data*

These basic measures from the NHES surveys of the 1990s as well as the Goals Panel Indicators have provided an important first national picture of preschoolers experiences and cognitive development, and pointed out the tremendous variation in background that young children bring with them to kindergarten. Continually monitoring changes in the population entering school through data collections of

this type is particularly important given how this population has undergone major recent changes. The early experiences of children born in the 1990s differ in important ways from those of children born in previous decades. They are more likely to live in young, female-headed, single-parent families, to live in poverty, and to live in households where English is the secondary language. These changes contributed to erosion in the economic and social capital available to nurture children and could therefore place them at increased risk of school failure.

However, while certainly of value, such data are also limited because they don't contain direct information about the mechanisms by which children's social, intellectual, and emotional development are affected by their family and school environments. Many researchers and policy makers have pointed out that adequate information of this type is absolutely essential to address the many complex decisions the Nation faces concerning appropriate policies and practices for the care and education of our children. Data are especially needed to address questions in four key areas: 1) school readiness, 2) children's transitions to child care and early education programs, kindergarten and first grade; 3) the relationship between children's kindergarten experience and their elementary school performance; and 4) children's growth and development during the early childhood years.

Examples include the following:

School Readiness

What early literacy, cognitive knowledge and skills, social behaviors and physical motor skills do children demonstrate as they enter kindergarten and first grade? How much variation is there in the knowledge, skills and behaviors children demonstrate as they enter school for the first time? Do the knowledge, skills and behaviors children demonstrate differ by race/ethnicity, socioeconomic status, family structure, and other child and family characteristics?

What characteristics of children, their families, out-of-home care and educational experiences during the years prior to school influence the knowledge, skills, and behaviors they demonstrate at entry to kindergarten? What characteristics of the in-home and out-of-home child-rearing environments during the first five years are most important in determining children's readiness for school?

What role do fathers play in early child care and child-rearing and how does their involvement with their children and the family relate to children's school readiness? What role do residential and non-residential fathers play? What contributions do fathers make to children's preparedness for school that are independent of mothers' contributions?

How are children's early health care and health status, including prenatal care and pregnancy outcomes (e.g., low birth weight and premature birth), hospitalizations, illnesses, disabilities, injuries, and access to health care related to their readiness for school?

What resources (family, school, and community) are available to children as they enter school for the first time? What are the relationships between resources and children's school readiness?

Transitions to Child Care and Early Childhood Programs, Kindergarten and First Grade

When do children receive first regular care from someone other than their parents? What are the characteristics of this care? How do parents make choices in determining both the timing of this child and the nature of the child care arrangements?

What affect, if any, does the timing, the types of arrangements chosen, the timing of mother's return to work and her balancing of work and home life demands have on children's growth and development, children's health status, and the family's well-being?

Do children who receive regular care from persons other than their parents have more difficulties than do children who are cared for only by their parents? Do the problems children experience vary by the type of care children receive, the timing of this care and important characteristics of children and their families?

What problems do children have adjusting to kindergarten? Are these problems related to characteristics of children's preschool and kindergarten programs? Do certain groups of children experience more problems than others? Do children who have trouble adjusting to kindergarten experience similar problems adjusting to first grade and later grades?

Kindergarten and Elementary School Performance

Do children who attend full-day versus half-day kindergarten programs perform any differently during kindergarten and in first grade? What effect do these program types have on children's social development and academic achievement? Do these differences persist after first grade?

What effects does class size have on children's academic performance and behavior during kindergarten, first grade and beyond? Is the effect the same for different groups of children?

What is the relationship between the time spent on particular subjects/topics, or on specific activities or topics within subjects and children's reading and mathematics achievement during kindergarten and beyond? Do children whose teachers emphasize group versus individualized instruction perform any differently in reading and mathematics?

Do children whose parents held them out of kindergarten do better, worse or about the same as children who entered kindergarten on time? Are the advantages or disadvantages the same for males and females?

Do children who repeat kindergarten or first grade do as well as other children, or do they experience more difficulties in later grades? What factors seem to account for whether they continue to have difficulties after the retention occurred?

What is the relationship between parental involvement in kindergarten and their involvement in first grade and later grades? Do parents maintain similar levels and types of involvement? Does their children's performance in school influence their continued involvement?

Children's Growth and Development

What are children's competencies and skills at different ages during the first six years of life? What are most children in the United States able to do in the domains of physical, cognitive, social-emotional and language development at key points during these first years of life?

What are the levels and rates of cognitive growth over time for different groups of children? What characteristics of children, their families, and their child care providers and early education programs are associated with different levels and rates of growth?

Which groups of children seem to have more developmental and academic difficulties and which groups seem to have fewer of these difficulties and more accomplishments?

What is the outlook for those children who experience early difficulties and how do family resources, early interventions, early childhood programs, health promotion and prevention programs, and school programs enhance the rates of growth and development for these vulnerable children?

What are the rates of growth in mathematics, reading, and science achievement during grades K through 5? Do gains in achievement persist over the summer months? What school, classroom, and home factors contribute to differential rates of growth?

When do we first see the gap in the mathematics, reading, and science achievement? What is the relationship between the gap that exists at kindergarten or first grade and the gap at fourth grade?

D. *New National Longitudinal Studies of Children*

The National Center for Education Statistics (NCES) has developed a new data collection program to many of the data gaps identified above. This program is comprised of two national longitudinal studies of children. The Early Childhood Longitudinal Study, Birth Cohort 2000 (ECLS-B) will draw a nationally representative sample of 15,000 births in calendar year 2000 and follow these children at regular intervals from birth until they reach first grade. The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K) began collecting data from a nationally representative sample of 23,000 kindergartners in the fall of 1998 and will follow these children at regular intervals through fifth grade.

The two longitudinal studies that comprise the ECLS program will provide new information to decision-makers, educational practitioners, researchers, and parents about the ways in which children are prepared for school and their readiness to take on the challenges of school. They will provide new data on the progress children make during the early school years and on how families, early childhood care and education programs, schools, and communities affect the lives of the nation's children. Many of the complex decisions the Nation faces concerning the care and education of our children require valid and reliable data on children, their families, schools, and early care and education programs. The ECLS program will provide these data.

There is currently no study that follows a national sample of children from birth through the early formative years, to school, and through the early elementary grades. The ECLS will join similar studies being conducted in Canada and Great Britain. Few existing national databases permit the study of children's early learning experiences, their transition to school and their early school experience by race-ethnicity, gender, region, etc. Most research on children's early education and learning has been conducted on small, often nonrepresentative samples of highly targeted populations (e.g., disadvantaged inner-city African American children).

For the first time, national data will be available on public and private kindergarten programs and the children who attend them. A goal of the ECLS is to describe accurately the diversity of the nation's children and their families, and the programs that serve them. Such information is critical to establishing policies that can respond sensitively and creatively to this diversity.

IV. The Early Childhood Longitudinal Studies Data Collections: The Emerging Vision

A. *Key Study Areas*

The four key areas of inquiry into early childhood education previously identified -- 1) school readiness, 2) children's transitions to child care and early education programs, kindergarten and first grade 3) the relationship between children's kindergarten experience and their elementary school performance; and 4) children's growth and development during the early childhood years -- will each be addressed by the ECLS.

The two ECLS cohorts, separately and jointly, will be used to study one or more of these areas. The birth and kindergarten cohorts will be used as the major sources of information on school readiness. The birth cohort will be used to study children's transitions to child care and early education programs and, along with the kindergarten cohort will be used to study children's transition to kindergarten. The critical transition from kindergarten to first grade will be studied through the kindergarten cohort. The kindergarten cohort will be used to examine the relationship between children's kindergarten experience and their elementary school performance. And the study of children's growth and development in critical domains that are important to school success will rely on data from both cohorts. General approaches to these study areas are outlined below:

School Readiness. Some children seem to adjust to their first encounter with formal school and are able to have a positive school experience while other children experience problems. For most children, the first formal school experience is kindergarten[2]. However, the kindergarten experience is not the same for all children. While 98 percent of children nationwide attend a kindergarten program prior to first grade, 40 percent of children attend full-day programs and 58 percent part-day programs. Attendance in public school kindergarten programs is about six times that of private school programs. Within these program types, and even within the same schools, curricula and instructional practices are expected to vary widely.

The ECLS has adopted a conceptual model of school readiness that is consistent with the one set forth by the National Education Goals Panel, Goal One Technical Planning Group. Thus, school readiness is conceived as being multidimensional and continuous. Children may have more or less of each of the skills, experience, and knowledge that increase their chances of having a positive school experience. Children who are relatively weak in one area may or may not be weak in others. NCES anticipates that the Goals Panel will use data from the ECLS to report on Goal One, School Readiness.

The ECLS program will examine children's preparation for school and will seek to describe the ways in which children's preparation for formal schooling is related to different characteristics of children, their families, out-of-home care and educational experiences, and the kindergarten programs that they attend. The study is particularly interested in the role that parents/family play in helping prepare children for formal school, and in the effects of children's participation in early care and education arrangements. However, in order to understand children's preparation for school, it is critical to understand how the educational system prepares for and responds to children who enter its doors for the first time. Consequently, the ECLS will pay particular attention to how schools and kindergarten programs respond to the backgrounds and experiences children bring with them as they enter school for the first time.

Normative data about children's competencies and skills at school entry and the variations in these competencies and skills will be used by program developers to meet better the needs of children. This information will be of valuable to both schools and early childhood programs and can be used to help prepare teachers. Information on the effects of the resources (financial, social, and emotional) fathers' contribute to their children and families will be useful to a variety of programs that target the family as a part of its intervention strategy. Findings pertaining to the home and program influences for different populations of children will help to better serve low income, minority, language minority, and disabled children. Data on the health status of children over time and its relationship to health care access and health insurance coverage will be used to evaluate how best to serve the health care needs of the nation's children.

[2] Throughout this paper, children's first entry to school is considered to be Kindergarten. It is recognized that children may have had a variety of organized group and program experiences prior to kindergarten.

Transition to Child Care and Early Childhood Programs, Kindergarten and First Grade. Children and adults are constantly making transitions from one status to another. Of particular interest to the ECLS program, is the transition that occurs as young children go from being cared for exclusively by their parents to the care of other persons. For some children, this transition may occur shortly after birth, while for others, their first significant experience with adults other than their parents in a regular care and educational setting may be when they enter school for the first time. Other transitions of particular interest are the transition to a group-based early childhood program, from preschool to school, and from kindergarten to first grade. The ECLS is especially interested in looking at these transitions and their impacts on different groups of children and families defined by race/ethnicity, socioeconomic status, language minority status and family structure (e.g., single-parent families and teenage mothers).

The ECLS will provide information on why some parents take advantage of services (e.g., health care and health insurance, Head Start) they are entitled to while other's do not. The study will also provide early childhood programs and schools with information on how they might work together to ease the transition to school for children. Findings pertaining to the relationship between children's age at entry to school and their adjustment to school will provide school districts with important information on which to evaluate the merits of different cut-off dates for kindergarten entry.

Kindergarten and Elementary School Performance. A central issue for the ECLS is the relationship between children's kindergarten experience and their school performance in grades 1 through 5. A goal of the program is to provide descriptive information on children during kindergarten, as they move out of kindergarten and into first grade and throughout the elementary school grades.

The study will focus on student achievement during these years as well as other measures of student performance (e.g., grade retention). By closely monitoring student performance, the study will provide useful information on when children begin to experience problems with their school work and the circumstances surrounding these difficulties. The study will provide useful information on the longevity of problems and the response of the child's family, school, and teacher to problems.

Data from the ECLS will provide states, school districts and schools with important information to guide decisions on how to best structure their kindergarten programs and classrooms. Findings pertaining to differences in social skills and behaviors and academic performance of children in full-day versus part-day programs will be particularly useful as these decision makers consider how to structure their kindergarten programs. The ECLS will also provide information on the effect of class size on children's social development and academic performance during the kindergarten year and whether this effect is the same for different populations of children. Again, this will be valuable information to decision makers as they make evaluate how best to use their fiscal and human resources.

Children's Growth and Development. The ECLS is especially interested in children's development during the critical years before school and during the first years of school. A major goal of the study is to monitor children's growth and development during these years. The proposed study seeks to understand better children's physical, social, emotional, and cognitive development as they relate to important influences in their lives.

The ECLS will provide information about learning that occurs during the school year and contrast that to learning that occurs during the summer months. School districts will use this information as they consider the alternative school calendars and extending the school year. They will also use this information to inform decisions regarding summer programs. The normative information that the ECLS will provide on children's rates of cognitive growth and language development during the critical early years will be used to programs that target special needs children (e.g., disadvantaged children, language minority children, disabled children). It will be used to better target services to the particular needs of these children.

B. *Overview of the Study Designs*

Both the ECLS-B and ECLS-K will draw nationally representative samples of children. The samples of both studies will consist of children from different racial-ethnic and socioeconomic groups. The two samples are designed to support separate estimates and analyses of African American, Hispanic, white, and Asian and Pacific Islander children, as well as children from different socioeconomic levels. The ECLS-K will also support analyses of public and private school kindergartners. The ECLS-B sample is designed to support the independent analysis of moderately low, very low and normal birth weight infants and to facilitate the analyses of twins. Both studies will collect data from the child, the child's parents/guardians, teachers or other care providers, and schools. With the permission of their parents, children participate in activities designed to measure important cognitive and non-cognitive outcomes. Parents/guardians are interviewed and serve as an important source of information about the families and children in the studies. Teachers and nonparental care providers, like parents, represent a valuable source of information on the children in their care and the children's learning environments. School administrators, principals, headmasters, and center directors provide information on the physical and organizational characteristics of the schools and programs ECLS children attend.

The ECLS-K will collect data twice during the kindergarten year—once in the beginning and once near the end of the school year. In the fall of the 1999-2000 school year, when most of cohort will have moved on to the first grade, data will be collected from a 25 percent subsample of the cohort. Assessments will be conducted with these children, and interviews will be conducted with their parents. In the spring, data will once again be collected from the entire sample, their parents, teachers, and school administrators. Additional follow-up surveys are planned for the spring of 2002 (third grade) and spring of 2004 (fifth grade).

Children in the ECLS-B will be selected from birth certificates and followed longitudinally through first grade. The first data collection will occur when the children are approximately 9-months old followed by a second data collection at 18-months. The interval between subsequent data collections has not been finalized but will occur roughly every 12 to 18 months. The exact timing of additional waves will be affected by other design decisions, the analytic goals of the study, and a variety of operational and cost considerations.

Special Populations. One of the goals of the ECLS program is to be as inclusive as possible. As a result, several efforts are being made to include all sampled children in the study to the fullest extent possible regardless of their background, English language ability, and disability status. The direct assessments that are being used in the studies, by their very designs, will accommodate the majority of children sampled. Furthermore, for those children who cannot complete the direct assessment, the full range of data from the other data collection sources (i.e., parents, teachers, child care providers and school administrators) will still be gathered. In the ECLS-K, any child whose home language is Spanish and does not have the English skills necessary to participate in the ECLS-K assessment battery is administered a modified version of the battery. At this time, the exact procedures of the ECLS-B have not been established.

Over the lives of the studies, children will be identified as having a disability that affects their learning. The untimed and one-on-one nature of the ECLS assessments will allow most of these children to participate in all or most of the direct assessments. ECLS staff will make every effort to include the other children. NCES has and will continue to work with the Office of Special Education Programs to identify the accommodations that are permitted and feasible.

ECLS Partners. A number of federal agencies have participated in the design of the ECLS-K and ECLS-B and are providing financial and/or staff support for these studies. Their involvement has enriched the ECLS program and expanded the types of questions the ECLS will address and extended the usefulness of the data beyond NCES and its traditional clients.

The Office of Special Education Programs of the U.S. Department of Education is supporting the collection of more extensive data on children with disabilities, their programs and the services they receive. The U.S. Department of Agriculture is supporting the measurement of children's height and weight at regular intervals and the collection of data on children's participation in breakfast and lunch programs at school and child care programs, families' food sufficiency, and infant feeding practices. The Administration for Children, Youth and Families of the Department of Health and Human Services is supporting activities to enhance the validity of Head Start participation data. The National Institute for Child Health and Human Development (NICHD) is supporting the collection of fall first grade data that will be used to study the learning that occurs over the summer months and to identify more accurately the effects of school and the home on children's achievement. NICHD is also supporting oversamples of moderately low and very low birth weight infants and twins, and the collection of data from fathers about their involvement in the lives of their children. The National Institutes of Health,

in conjunction with NICHD, is supporting the collection of data on children's health status and child and family health behaviors and practices. The National Center for Health Statistics is providing the birth certificate sample for the ECLS-B and its staff's health expertise.

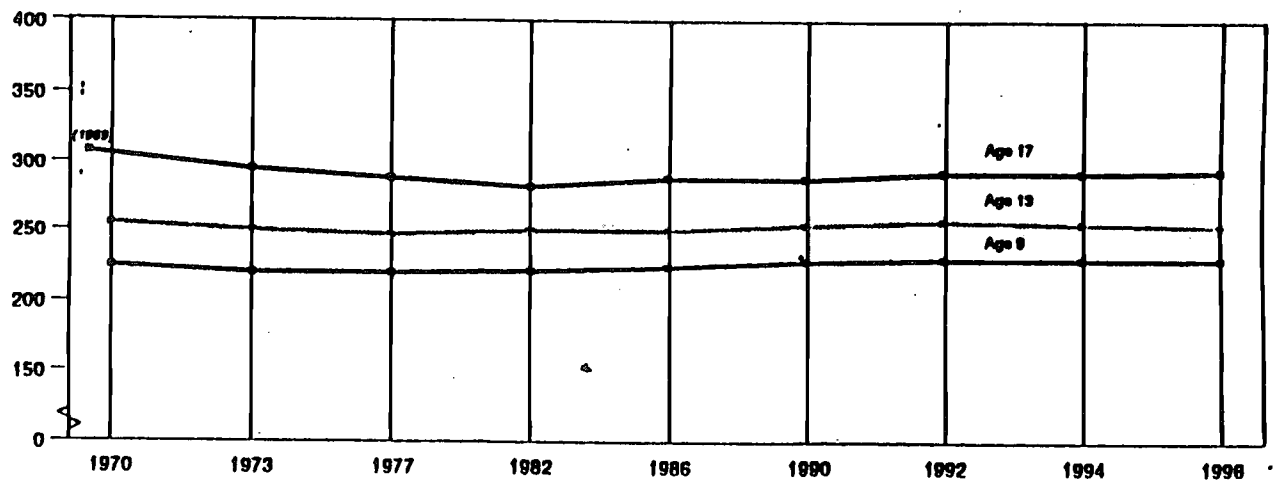
REFERENCES

Phillips, Meredith, 1998. "How to improve our understanding of ethnic difference in academic achievement: empirical lessons from national data." Paper presented to the NCES conference, "Analytic Issues in the Assessment of Student Achievement." November. Washington, DC.

Ralph, John; Mary Frase; James Crouse; and William Thompson. 1998. First Graders Achievement in Top and Bottom Schools. Issue Brief. January. NCES 98-041. Washington, DC: U.S. Department of Education

Figure A

Science Trends in Average Scale Scores for the Nation:
1969-70 to 1996

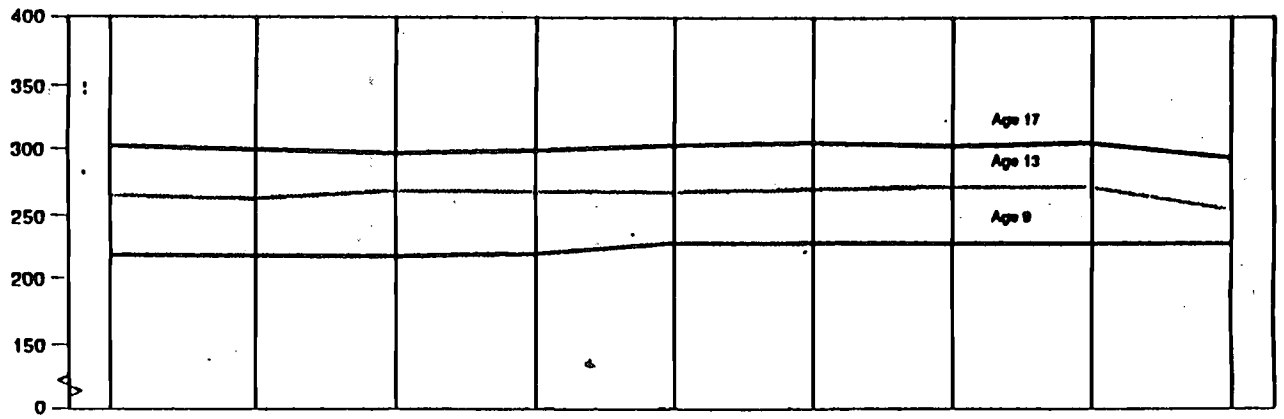


	1970	1973	1977	1982	1986	1990	1992	1994	1996
– Age 9	225	220	220	221	224	229	231	231	230
– Age 13	255	250	247	250	251	255	258	257	256
– Age 17	305	296	290	283	289	290	294	294	296

SOURCE: National Assessment of Educational Progress (NAEP), *1996 Long-Term Trend Assessment.*

Figure B

Mathematics Trends in Average Scale Scores for the Nation: 1973 to 1996

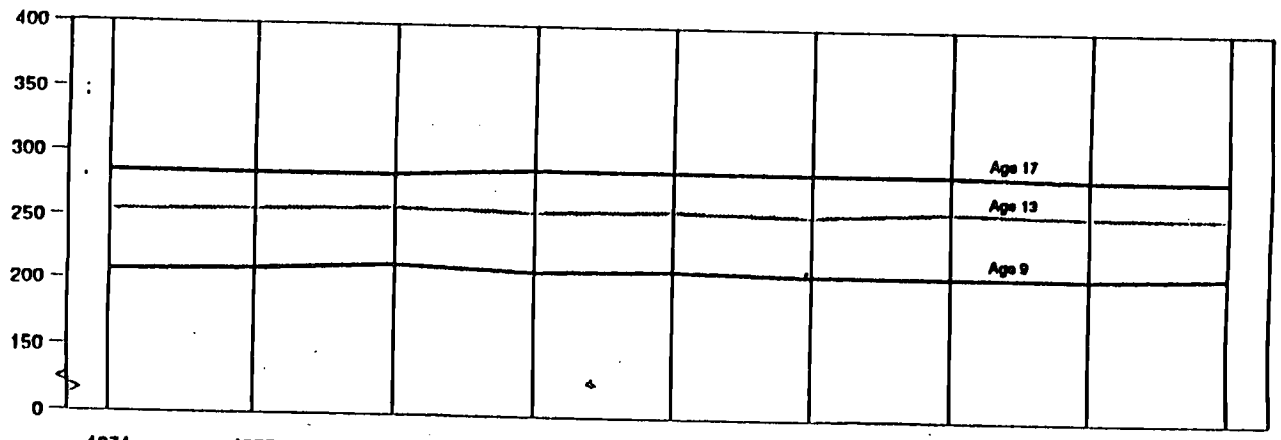


	1973	1978	1982	1986	1990	1992	1994	1996	1996
Age 9	219	219	219	222	230	230	231	231	230
Age 13	266	264	269	269	270	273	274	274	256
Age 17	304	300	299	302	305	307	306	307	296

...tional Progress (NAEP), *1996 Long-Term Trend Assessment.*

Figure C

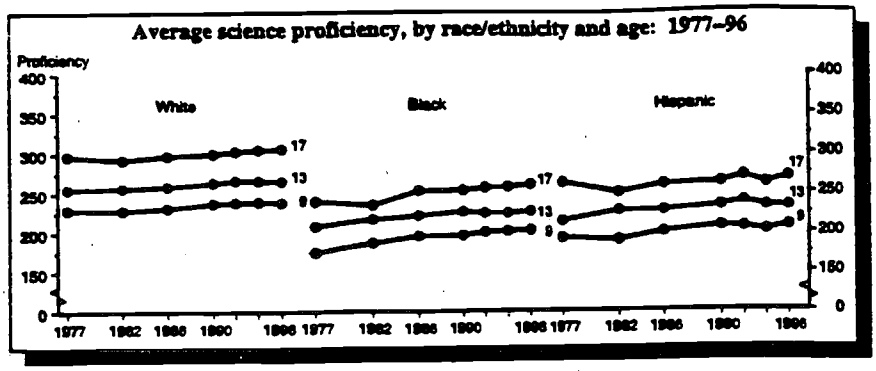
Reading Trends in Average Scale Scores for the Nation:
1971 to 1996

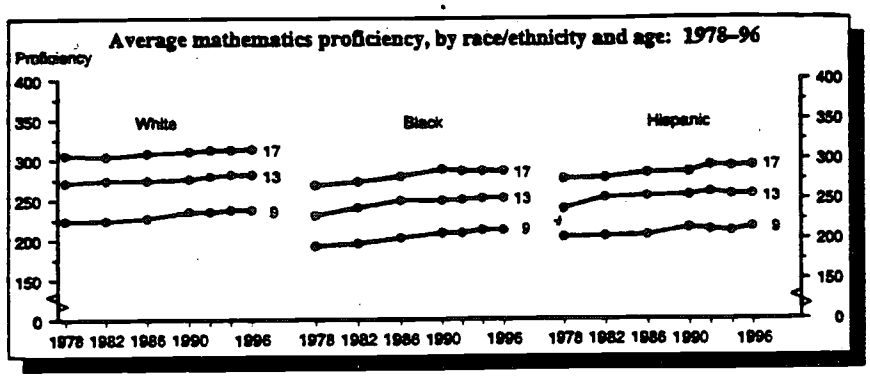


	1971	1975	1980	1984	1988	1990	1992	1994	1996
Age 9	208	210	215	211	212	209	211	211	212
Age 13	255	258	259	257	258	257	260	258	259
Age 17	285	286	286	289	290	290	290	288	287

SOURCE: National Assessment of Educational Progress (NAEP), *1996 Long-Term Trend Assessment.*

Trends in Racial Group Performances for Science, Mathematics and Reading: 1969-70 to 1996





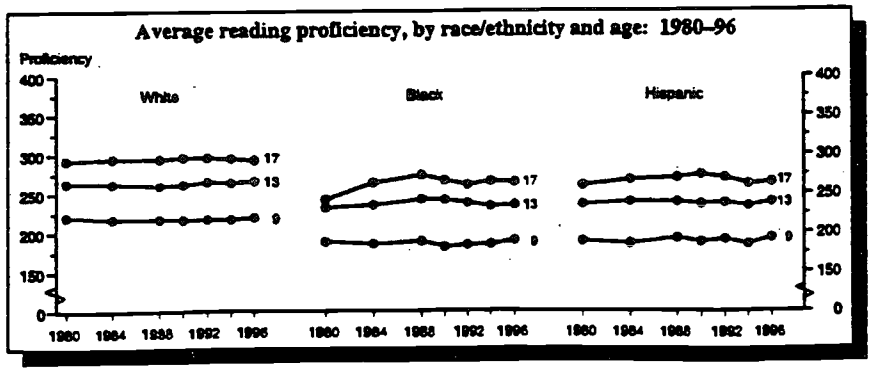


Figure 2

U.S. International Mathematics and Science Performance on the 1995 TIMSS: Grades 4 and 8

How did U.S. Students Compare with the International Average in...?	At Grade 4? (26 nations)	At Grade 8? (41 nations)
Mathematics overall	Above	Below
Science overall	Above	Above
Mathematics Content Areas:		
Data representation, analysis, and probability	Above	Above
Geometry	Above	Below
Whole numbers	Above	X
Fractions and proportionality	Above	X
Patterns, relations, and functions	Above	X
Measurement, estimation, and number sense	Below	X
Fractions and number sense	X	Same
Algebra	X	Same
Measurement	X	Below
Proportionality	X	Below
Science Content Areas:		
Earth science	Above	Above
Life science	Above	Above
Environmental issues and the nature of science	Above	Above
Physical science	Above	X
Chemistry	X	Same
Physics	X	Same

What Percentage of U.S. Students Would Be in the International Top Ten Percent in...?	At Grade 4?	At Grade 8?
Mathematics	9%	5%
Science	16%	13%

Above = U.S. average performance is higher than the average of participating nations at that grade.
Below = U.S. average performance is lower than the average of participating nations at that grade.
Same = U.S. average performance not significantly different than the average of participating nations at that grade.
X = Separate content area score not reported for this grade level.

SOURCE: Third International Mathematics and Science Study. *Pursuing Excellence*.

U.S. International Reading Performance on the 1991 IEA Reading Literacy Study: Grades 4 and 9

Table 1

Countries Ranked by 4th Grade Reading Achievement: Total Score

Country	Mean	Standard Error
Finland	569	
United States*	547	
Sweden	539	2.0
France	531	4.0
Italy	529	4.3
New Zealand	528	3.3
Norway	524	2.6
Iceland*	518	0.0
Hong Kong	517	3.9
Singapore	515	1.0
Switzerland	511	2.7
Ireland	509	3.6
Belgium (French)	507	3.2
Greece	504	3.7
Spain	504	2.5
Germany (West)	503	3.0
Canada (British Columbia)	500	3.0
Germany (East)	499	4.3
Hungary	499	3.1
Slovenia	498	2.6
Netherlands	485	3.6
Cyprus	481	2.3
Portugal	478	3.6
Denmark	475	3.5
Trinidad/Tobago	451	3.4
Indonesia	394	3.0
Venezuela	383	3.4

*Lacks tested all students therefore no standard error was calculated.

Mean achievement higher than United States
Mean achievement equal to United States
Mean achievement lower than United States

SOURCE: Elley, Warwick B., How in the World Do Students Read? The Hague: International Association for the Evaluation of Educational Achievement, 1992.

Table 2

Countries Ranked by 9th Grade Reading Achievement: Total Score

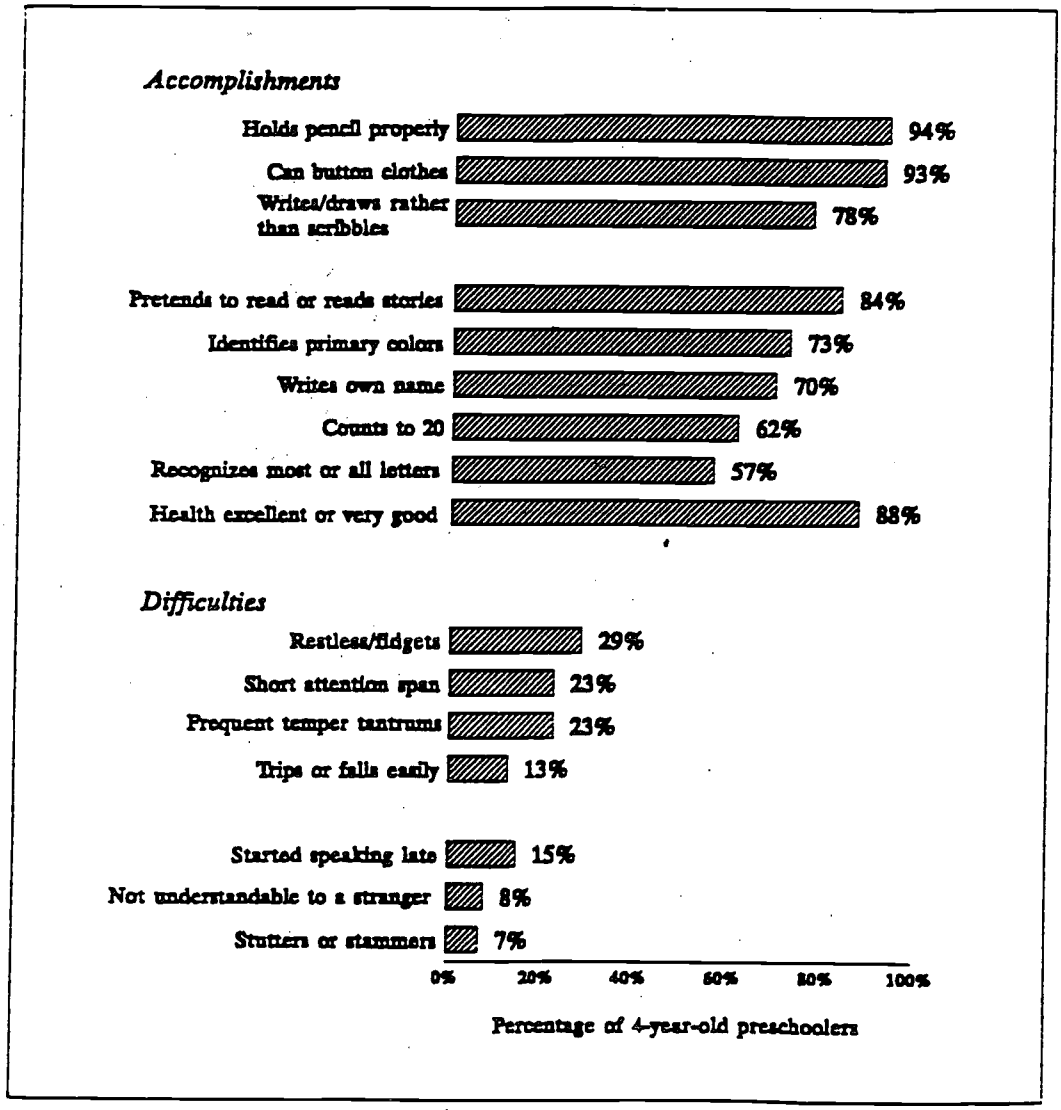
Country	Mean	Standard Error
Finland	560	
France	549	1.8
Sweden	545	2.3
New Zealand	545	2.1
Hungary	543	2.3
Iceland	540	4.0
Switzerland	538	2.7
Hong Kong	535	4.7
United States	535	4.8
Singapore	534	2.1
Slovenia	532	2.4
Germany (East)	526	3.5
Denmark	525	2.1
Portugal	523	3.1
Canada (British Columbia)	522	3.0
Germany (West)	522	3.4
Norway	516	2.3
Italy	515	3.4
Netherlands	514	4.9
Ireland	511	5.2
Greece	509	2.9
Cyprus	497	2.2
Spain	490	2.5
Belgium (French)	481	4.9
Trinidad/Tobago	479	1.7
Thailand*	477	6.2
Philippines	430	3.9
Venezuela	417	3.1
Nigeria*	401	—
Zimbabwe*	372	3.8
Botswana	330	2.0

*Sampling procedure met or school below 80%.

Mean achievement higher than United States
Mean achievement equal to United States
Mean achievement lower than United States

Figure G

Percentage of 4-year-old Preschoolers with Reported Accomplishments and Difficulties

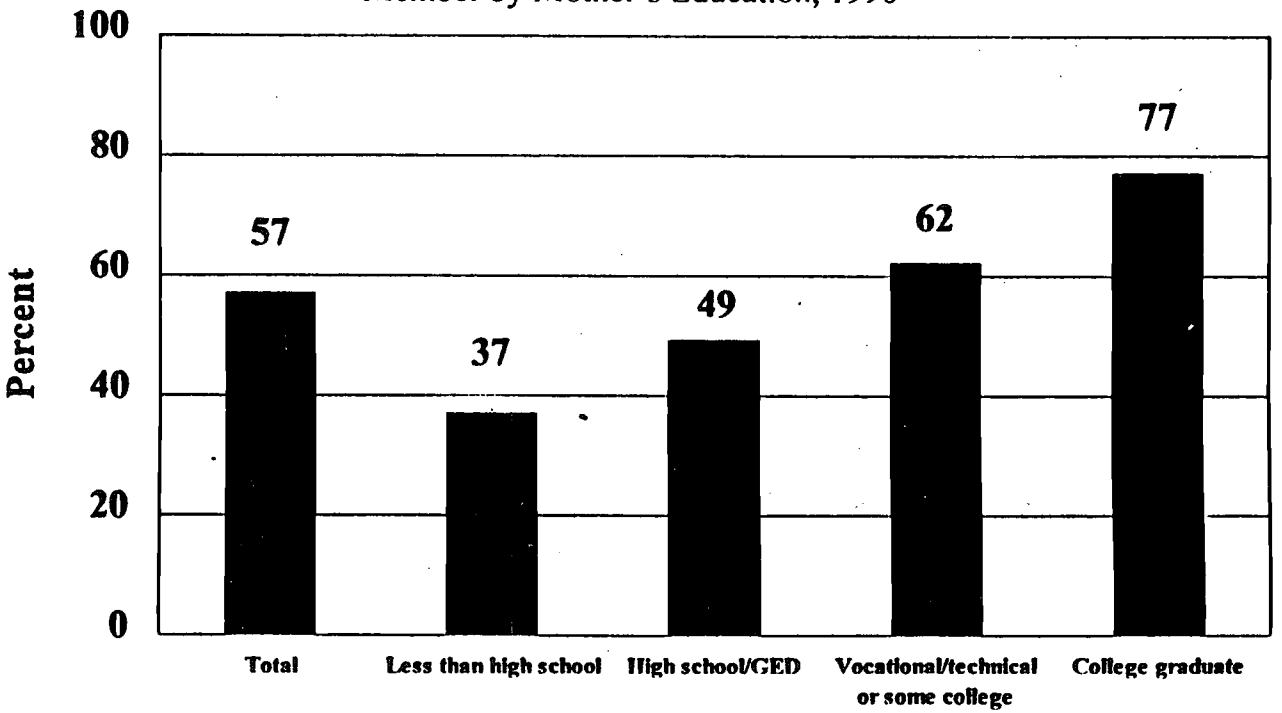


[1] As reported by parents.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1993

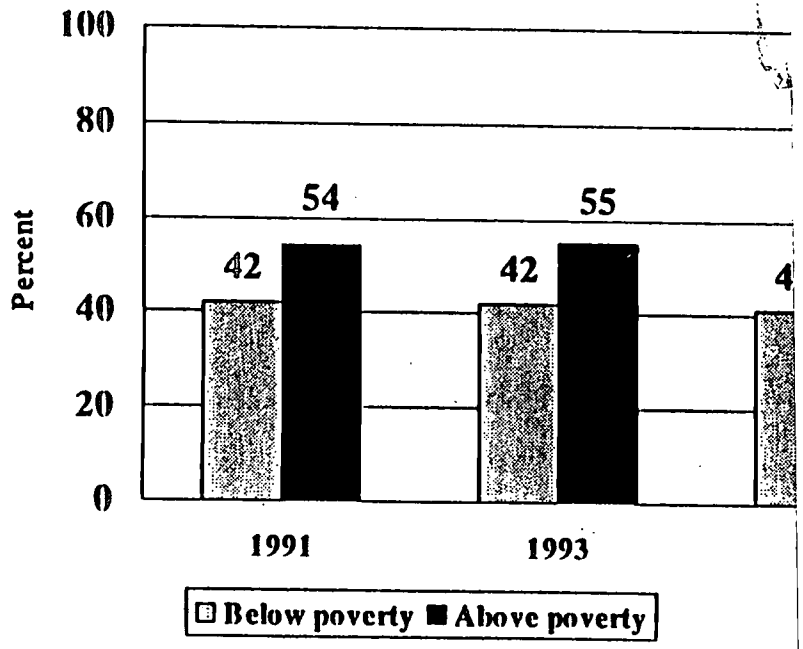
Figure H:
Family Reading to Young Children

Percentage of Children Ages 3 to 5 Who Were Read to Everyday by a Family Member by Mother's Education, 1996



NOTE: Estimates are based on children ages 3 to 5 who have yet to enter kindergarten.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey.

Figure I:
Percentage of Children Ages 3 to 4 Who Are Enrolled in Early Childhood Centers by Poverty Status for Selected Years, 1991-1996



NOTE: Estimates based on children who have yet to enter kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistic
1996.

TESTIMONY OF THE CHILD CARE ACTION CAMPAIGN

Submitted to the Committee on Labor and Human Resources for a hearing, "Are Our Children Ready to Learn?"

December 4, 1998

My name is Faith Wohl and I am president of Child Care Action Campaign (CCAC), a national nonprofit advocacy organization based in New York City. Child Care Action Campaign works to strengthen families, improve education and advance the well-being of children with good quality, safe, affordable child care.

Thank you for holding this hearing on the important question of the readiness of our young children to learn once they enter school; thank you, as well, for inviting me to participate. We know, of course, that children learn from the day they are born, provided they are in an environment that supports and encourages their development. Children's preparedness for school depends on their physical health and well-being, their social and emotional development, language use and cognitive knowledge. Their readiness for all early learning, including elementary school, requires the combined efforts of families, communities and schools to provide high quality care, stimulation and good health throughout the first five years of life..

Kindergarten and first grade teachers are quick to point out that they know almost from the first school bell in September which children will make it and which won't. They know which children come from high quality pre-school programs and which don't. They know very soon which children are ready to learn and which are not.

I am not an educator by profession or experience. Instead, I first became aware of the link between good quality early childhood programs and first grade performance when I had the privilege of studying the French child care system nearly ten years ago. I was then a human resources director for the DuPont Company in Wilmington, Delaware, and I was invited to be on a 14-person team sent to France by the French American Foundation. We were to determine whether there were lessons from the French system that could provide practical ideas for the United States.

We learned many memorable things in France as we studied and experienced their superb child care and preschool programs. One that was outstanding, both in its impact on me and its

relevance to today's hearing, was the fact that national French data showed a positive correlation between number of years in preschool and the rates at which children from all socio-economic backgrounds pass a first grade reading exam, a good indicator of school success. These data confirmed the French belief that preschool is an effective counterbalance to other differences, such as region and background, because its aims are the same and its programs similar for all children in the country.

As I have told colleagues and associates many times, I came back from France an angry woman, but also a determined one. I was angry because I had seen in my two weeks there a level of quality in early childhood programming that was available only in isolated instances here, but was virtually universal there. As I told a group of French and Americans at a gathering in Paris then, I had visited many child care centers in the U.S., and it was a rare one that passed what I called The Emily Test. This was a visceral grandmother's question, "would I leave Emily here?" Emily was then 10 months old, and the youngest of my grandchildren. But in two weeks in France, every early childhood setting I had seen passed that demanding test.

My determination focused on what action I could take on returning to the United States to improve the quality of child care and early education and thus, enhance the ability of our children to succeed in school. My first effort in this regard was to institute at DuPont a program we called "Flying Colors," which used corporate financial incentives to encourage child care programs, in communities where we employed large numbers of people, to pursue professional accreditation through the National Association for the Education of Young Children. This was a way to persuade child care providers to reach for standards of quality higher than state licensing requirements. And it was a way to communicate the message that as a company we believed in the importance of good quality care. When we started, Delaware had only one center in the whole state that was professionally accredited. Within a fairly short time, there were more than 40 accredited programs.

I left DuPont in 1993 to join the federal government here in Washington as Director of the Office of Workplace Initiatives at the General Services Administration. In that role, I would, for the next four years, oversee 100 child care centers for civilian employees in Federal buildings across the country. I was delighted to learn that GSA had already instituted in 1992 the

requirement that all of the centers under its oversight become accredited. As director of that program I continued to drive the pursuit of accreditation as one means to assure a common standard of quality across all GSA centers. When I left, more than 75% of GSA's centers had achieved accreditation.

At the end of last year, I joined the Child Care Action Campaign, to be a full time, full fledged advocate for quality child care. What strikes me forcefully now, and continues to make me angry, is that while we know that good quality child care and preschool education help children enter school ready to learn, we have not taken the steps to act on that knowledge.

When Congress passed the Goals 2000:Educate America Act in March of 1994, it declared that "by the year 2000, all children in America will start school ready to learn." However, it did not provide new funding or new programs to assure we would meet this goal. It would be as if we had declared our national intent to go to the moon and back in a decade, but had not created NASA or a new space center to make sure it happened. The law called for access for all children to high quality pre-school programs as one means to reach the readiness target, but we find ourselves now, at the end of 1998, very far from that goal in terms of both access and quality.

In fact, the landmark study Cost, Quality and Child Outcomes in 1995 (1) found that the quality of care in more than 80% of child care centers is "poor to mediocre." In 40% of infant and toddler rooms caregivers did not follow basic health and safety practices. Experts in the field would confirm that the situation today, several years after the study, has not changed. To compound the problem, while some parents struggle to find appropriate child care in their communities, those who do find good quality care most often discover it is too expensive, and settle for care they can afford, often unlicensed and developmentally inappropriate.

Unless we take steps to make sure that good quality child care and early education is available to every family that needs it, that caregivers are paid appropriate compensation instead of poverty-level wages, and that fees are affordable to parents, we not only won't meet the school readiness target in the year 2000, we will never meet it. In fact, it's clear now that we have already missed the goal established in the law. But that failure has been met with silence and

apparent lack of concern, when we should be in a national uproar over the opportunities our children have been denied.

Our failure to meet the year 2000 goal also means that the gloomy predictions of the Hudson Institute's Workforce 2020, published last year, will come to pass. The report pointed out that while "millions of Americans with proficiency in math, science and the English language will join a global elite whose services will be in intense demand... other Americans with inadequate education and no technological expertise will face declining real wages or unemployment." In short, by failing to ready children now for their education in school, we condemn them to second class status in our society for the rest of their lives.

Our quality crisis in early education is actually a crisis of funding, and solving it will require a big investment. In my opinion, that will require a radical shift in our priorities and our focus. We will have to lift our sights beyond the apparent constraints of the present and acknowledge fully that our children are the future of this country, the only future we have. They are the future work force, our future parents, our future citizens and the ones who will provide the resources to keep Social Security healthy. We simply have to start thinking differently.

Study after study has confirmed the fact that high quality early childhood programming works. Child Care Action Campaign will shortly release its own study, Right From the Start, which identifies 70 notably successful partnerships among child care, Head Start and public schools in low income communities in 35 states. Success is defined in terms of child outcomes, including improved readiness for and performance in school. These programs prove that we can ready children for school, even in difficult settings.

Recently we worked with the High/Scope Educational Research Foundation in Ypsilanti, Michigan to release its newest study (2), which showed that obtaining additional external funding to supplement fees paid by parents can produce high quality programs where teachers are paid above-average wages and are thus more likely to make long-term commitments that foster their bonds with the children.

A study in Rochester, New York (3) showed that by doubling the number of children in publicly-funded early childhood programs over a six year period, the city was able to reduce the

incidence of serious learning, speech and motor skills problems in incoming kindergarteners from 61% to 38%.

In another New York State study, Syracuse (4) found that four year olds who were behind their age group in skills and vocabulary were able to catch up, in most cases, after only a few months of pre-kindergarten programs. In less than five months, the proportion of children working at or above a four year old's age level increased from 21% to 81%.

In short, we in the United States already know what the French first taught me nearly 10 years ago. Quality early childhood programs result in readiness for school and better performance in school. The difference--and a critical one--is our inability or unwillingness to act on the knowledge we have. That's what has to change.

I'd like to close my comments by quoting the founder of our organization, Mrs. Elinor Guggenheimer, who said this in 1992: "I want to see an entirely new approach to education--a system that recognizes that children learn from the moment of birth, that education is a continuum in which the formal school system plays only one part. I want to look at the human animal in a new and fresh way, with an understanding of what may be lost in any one year due to neglect, poor nutrition and lack of cognitive stimulation. How do we take the newborn infant and begin and continue the process of developing the adult who can survive and contribute to a technologically-oriented democratic society? How can we integrate toddler care, preschool care, out-of-school care and the formal educational system?"

Until we can answer Mrs. Guggenheimer's questions, the answer to the query posed by this hearing, "Are Our Children Ready to Learn?" unfortunately will be no...not all of them. The critical question now is what are we as a nation prepared to do to recommit ourselves to this goal and to the necessary actions that will assure that we get there. To do less, is to abandon too many of our children to a future none of us in this room would want for our own children and grandchildren.

End Notes

1.Helburn, Culkin, Howes, Bryant, Clifford, Cryer, Peisner-Feinberg, Kagan, et al, *Cost, Quality and Child Outcomes in Child Care Centers*, 1995

2.Schweinhart, Fowler Kinch, High/Scope Educational Research Foundation, *Program Recognition Project*, 1998

3.Rochester City School District, *The Impact of Early Childhood Education Programs in Rochester*,1994

4.Syracuse City School District, *Developmentol Testing Results of Four-Year Old Prekindergarten Children*,1995

[Whereupon, at 11:40 a.m., the committee was adjourned.]

○

ISBN 0-16-057946-5

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☐ This document is covered by a signed "Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☒ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").

EFF-089 (9/97)