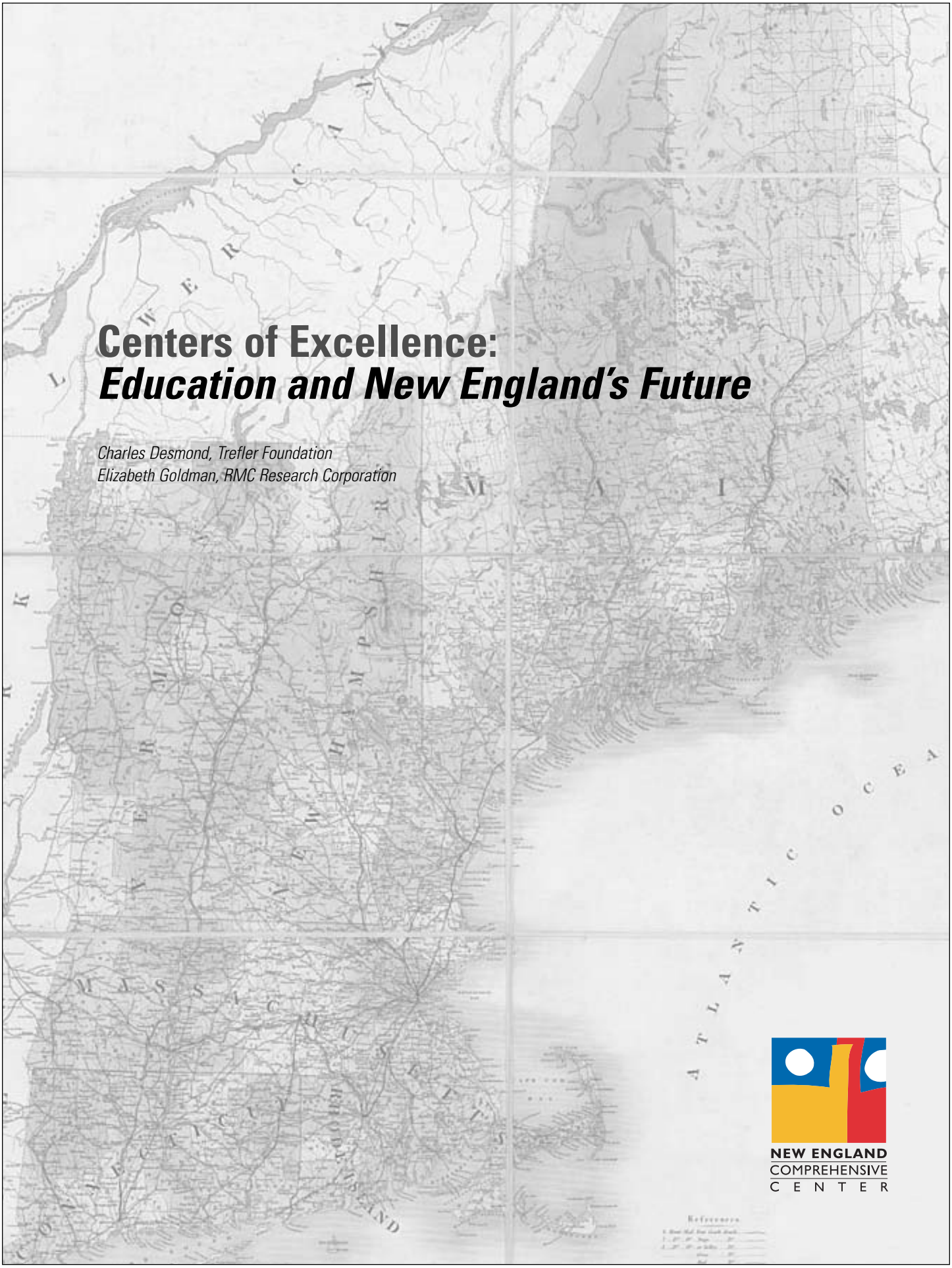

Centers of Excellence:
Education and New England's Future

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NEW ENGLAND
COMPREHENSIVE
CENTER

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For close to four centuries, New England has symbolized America's regard for ideas and education. The American Revolution began here. So did American literature, Transcendentalism, the anti-slavery movement, and the American Industrial Revolution. Public schooling and professional teacher training began here.

Revolutionary ideas come from this part of the country. New England has re-created itself time and again—from a largely farming economy, to a highly industrialized one, to one driven by high technology. Today, in the midst of dramatic demographic shifts, the region is challenged to reinvent itself once again to capitalize on the strengths and ingenuities of its people. Despite our rich history, the educational prominence that has always distinguished New England is now at risk. This paper proposes that the region's six land-grant universities play a leadership role in reinventing public education to prepare all of our citizens for a global economy.

What's Happening?

Put bluntly, New England's older, whiter population is both aging and moving away. Historically, the six New England states have balanced out-migrations of its citizens by in-migrations of newcomers. That will continue, but the people replacing the older, whiter, out-migrating population are likely to be younger immigrants from farther away, from Latin America and Southeast Asia rather than Europe, to be poorer, non-native speakers of English, and members of minorities. Nationally, the numbers of white workers are predicted to decline by 72% over the next two decades, while numbers of minority workers are expected to rise by 20%. Both nationally and regionally, by 2050 the population will be "majority minority," so to speak.

Forty years ago, a wave of new in-migrants to New England would have suggested an ongoing source of workers for the future, a promising notion, except for one thing. The work of the future has changed. It's going to require very highly skilled, well-trained thinkers, and New England, like much of the U.S., has done a poor job of educating low-income and minority children.

A Leaky Pipeline

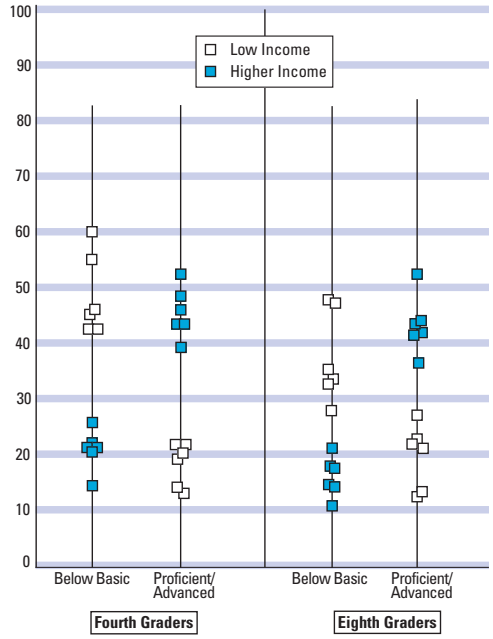
The reality of schooling for students of poor and minority parents has come into sharper focus as a result of No Child Left Behind and other accountability measures. While efforts are underway to improve those schools, it's clear that, currently, poor and minority students fare worst educationally of all student groups. The National Science Foundation's *Science and Engineering Indicators 2004* [1] found that low-income and minority high school students are offered fewer challenging courses, especially in math or physics, and fewer AP courses. They are less likely to be taught by math and science teachers who majored in either subject and less likely to be schooled in environments teachers find "more favorable."

In New England, Hispanic students have been hard hit. Fewer than half (42%) of Hispanic students graduate high school in Rhode Island, and in Connecticut, only one in two Hispanic students graduate high school. The number of Hispanic students entering college actually declined 3% between 1970 and 1990. College completion rates for Hispanic students also declined, by 6%. African American students fared somewhat better. In that same period, the number of African American students entering college increased 6%, compared with an 8% increase among white students. College completion rates for white students rose 5%, and only 1% for African American students, however.[2]

Even in states with low minority populations, such as Vermont and Maine, poverty alone consigns students to lower academic achievement. The chart below shows reading achievement rates for low and higher income fourth and eighth graders across New England in 2005. The NAEP (National Assessment of Educational Progress) results illuminate the nearly opposite worlds higher and low-income students inhabit.

2005 NAEP Reading Scores: New England

Each square represents one of the six New England states. The squares' positions show the achievement levels, by state, of New England's low-income (white box) or higher income (shaded box) students on the 2005 NAEP Reading Test. The patterns show a relationship between family income and reading achievement scores such that students with higher family incomes tend to have higher levels of reading achievement.



Source: National Center for Education Statistics, 2005.

As long ago as 1980, Jean Anyon[3] highlighted the dramatic differences in schooling for students of the working, middle, professional, and executive classes. Anyon found that typically, low-income students are taught to memorize and repeat; higher income students are taught to think and explain. This is as true today as it was 25 years ago.

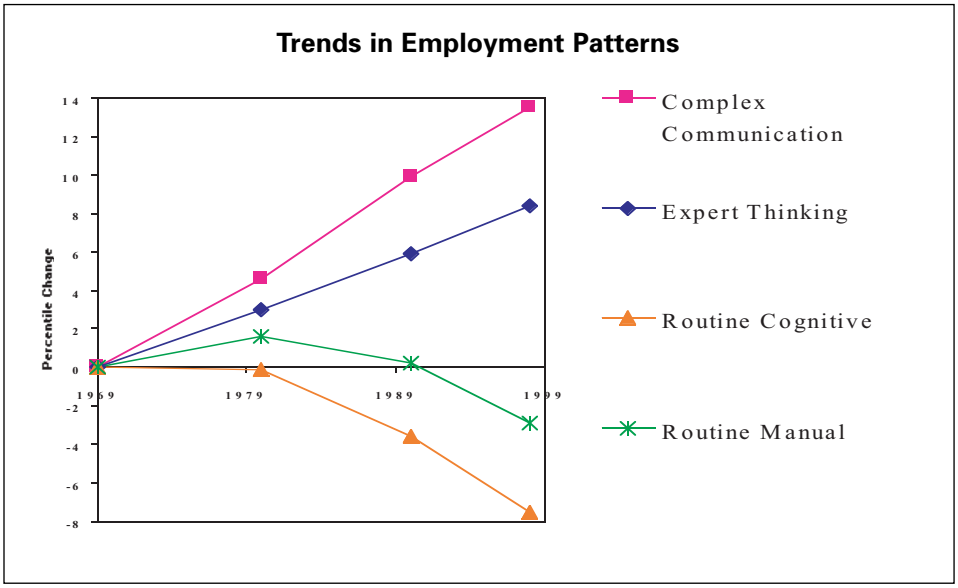
What would, under equitable schooling, be a pipeline to college and the necessary skills for the 21st century is closer to a sieve for minority and low-income students.

What Skills Will Future Generations Need?

The workers of the future face a far more challenging landscape than any of their ancestors may have. Forty years ago, blue collar jobs were more plentiful than any other kind (nationally), but those numbers are dropping, and jobs in technical, professional, and managerial fields are rising.[4]

Records from 1992 to 2002 by the Bureau of Labor showed a drop (400,000) in the number of jobs for workers with less than a high school degree and an increase of 6.3 million jobs for workers with 4-year college degrees.

This chart shows that opportunities for workers with higher order thinking skills continue to expand. Opportunities for workers with lower level skills are decreasing.



Source: "Preparing Students to Thrive in 21st Century America." R.J. Murnane, 2005

We know citizens of the mid-21st century will live in a vastly more crowded world—today's six billion people are expected to number 9.4 billion by 2050—and will face problems even more daunting than those facing us. Our challenges, beginning with global warming and nuclear proliferation, suggest there is not a moment to waste in gaining skills in science, technology, and engineering, not to mention philosophy and communication. New England needs and will need powerful, creative thinkers from all disciplines to solve problems of this magnitude.

The costs of not preparing those skilled and creative thinkers will be high. Education is positively correlated with income. A recent national study[5] put the cost to the national economy of children who grow up poor at $500 billion, representing lower productivity, higher crime rates, greater health-related expenses, and lower tax revenues. The Alliance for Education has calculated that the lost lifetime earnings of the region's high school dropouts in 2004 alone totaled nearly $11 billion,[6] while the return on investment in education is estimated to run as high as 17 to one. But the benefits are not only financial; greater educational opportunities generate greater self-determination, self-sufficiency, creativity, and meaningful involvement in public life.

No conceivable demographic projection suggests that New England will grow so robustly that it can ignore any part of its population. Failure to educate all students to high

levels of skill and conceptual acuity represents a waste of human resources across the board. Education generates not only private gain, but public good.

We Can Do Better

Fortunately, we know from evidence that skilled teachers, working to high standards, can reverse the effects of poor education. The "achievement" gap may be more of an "execution" gap. According to researchers, "Unequal distributions of inexperienced teachers and of racial concentrations in schools can explain all of the increased achievement gap between grades 3 and 8."[7]

The Tennessee Value Added Assessment System, which measured the growth in student learning over the course of an academic year, showed that some teachers "consistently get 150% or 200% growth [in student achievement] over expected level, year after year."[8] Because many students from poor and minority families are already behind academically, these are the kinds of teachers who must be fostered, and on a wide scale.

It has been done. University Park High School in Worcester, Massachusetts is an example. More than 70% of the school's students live in poverty, some 50% speak English as a second language, and most entered the high school at least two grade levels behind. In 2004, 100% of University Park tenth graders passed the Massachusetts Comprehensive Assessment System (MCAS) on the first attempt, 87% at the proficient or advanced level. Results from University Park surpassed those of many schools serving wealthy students.[9]

Roxbury Prep Charter School, a middle school which serves a 100% minority student body, (62% low income), tells a similar story. Students have consistently outperformed not only their peers in Boston Public schools, but students across the state. The numbers of students entering sixth grade in 2005 with proficient or advanced scores on the 4th grade MCAS nearly quintupled by eighth grade, from 19% to 94%. On six of the seven MCAS tests administered in 2006, more Roxbury Prep students scored proficient or advanced than did the state's White students, effectively closing the racial achievement gap.[10]

Reinventing the Land Grant System

Today's land-grant colleges were founded, at the behest of Vermont Senator Justin Smith Morrill, after the Civil War. The Morrill Act of 1862 set aside federal money and land to establish land-grant colleges to teach "agriculture and the mechanical arts" and "promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."[11] These colleges reflected a new attitude toward higher education,

one designed to enrich a wider class of (working) citizens. That investment underwrote many of the advances in food, health, and manufacturing that 20th century Americans enjoyed.

We propose that, working in concert, the six land-grant universities are strongly positioned to advance educational excellence in New England. In the language of the Fourth Kellogg Commission Report,[12] we invite the public, state land grant systems to engage in their historically grounded civic mission of educating new populations for new tasks. Such a collaboration can approach the task recently outlined by U.S. Secretary of Education Margaret Spellings: "We want a world-class higher-education system that creates new knowledge, contributes to economic prosperity, and global competitiveness, and empowers citizens [and is] accessible to all Americans, throughout their lives."[13]

We propose that the land-grant university systems in New England take the lead in articulating, organizing, and stewarding an integrated, coherent education platform that brings the many parts of the education system—educators at all levels, businesses, philanthropies, and communities—together to improve P-16 teaching and teacher preparation across the region. The notion of a vibrant "center" does not suggest a particular physical space or organizational structure, but rather a positional role. An analogy might be between PC and Mac computers: rather than redesign either system, engineers invented a way for them to talk with each other.

We see each of the six land-grant universities functioning as dynamic state Centers of Excellence, and all six collaborating regionally to foster dialogue on improving teaching and learning, contribute to the necessary research and teacher development, and drive a regional mission to prepare the highly skilled workers and thinkers of the future. Such efforts may catalyze a number of innovative structures and learning opportunities from practitioner-based knowledge and empirical research to address the critical issues we face:

- How can efforts to increase student learning be more effective?
- How can the region meet unprecedented needs (indeed, requirements) to educate all students to their highest potential?
- How can educational policies and practices ensure consistently high quality teacher education across the region?
- How can new teachers be sustained in their work and how can master teachers share their knowledge?
- How can the high school—college connection be strengthened?

- How can New England's land grant universities reinvent themselves to work at the cutting edge of the knowledge industry?
- How can we join the parts of this system—public elementary and secondary schools, community colleges, four-year colleges and universities, teacher preparation programs, and local and state education agencies—to inform each other's work and form a coherent whole?

In a recent editorial,[14] Evan Dobelle of the New England Board of Higher Education advanced some ideas toward this end, such as a K-12—college teachers' exchange program, a region-wide forum for best practices in teaching, a regional network of policymakers and educators, and a regional summit meeting on how education is financed. Centers of Excellence to improve the quality of education can be places to generate ideas like these and foster the kind of concerted regional dialogue necessary for innovative thinking and practice to emerge.

Can It Be Done?

American education has undergone enormous changes in the last hundred years. In 1910, only 14% of the U.S. population graduated high school; by 2004 that figure had risen to 84%. New England has re-invented itself many times in its evolution. We are poised at a historical moment that calls for an "education economy." The groundwork has been laid. Fifty years ago, New England adopted a visionary New England Higher Education Compact and created the New England Board of Higher Education (NEBHE). Many parts of an educational system that would work for all students are in place. All that's missing is the will to bring them together.

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