

If You Build It, They Will Come: Investing in Public Education

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“The United States is a big spender on education.”

Hadderman, 2001



- ★ The United States spends over \$500 billion a year for elementary, secondary and higher education combined.
- ★ It is estimated that per pupil expenditures in 2009-2010 will increase to \$9,204.
- ★ Currently, the state of New Mexico spends on the average of \$6,162 per pupil. (ECS, 2002)



The nation's investment in education yields benefits for the economy and the individual



★ Educational economists, using human capital theory, agree that, “investments in education lead to improvement in economic productivity generally and to higher income for those individuals who ‘invest’ in education.”

Picus, 2001

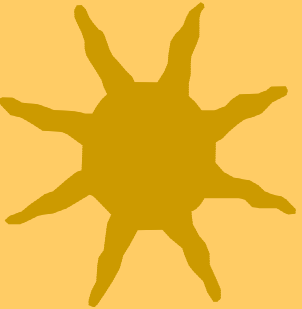


Five Important Questions:



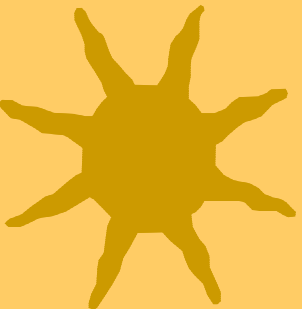
1. Should the nation and the state continue to increase spending on public education?

2. What are the economic and social benefits of an increased investment in public education?



3. Where is the best place to put increased investment in public education?

4. What is the relationship between public school spending and student achievement?



5. Where do states typically find the money to increase spending on public education?



Question One



Should we continue to increase spending?

If so, on *what*, precisely?





Question One



- ★ Should the nation and state continue to increase spending for public education?
 - Yes. There is an appreciative return on carefully made investments in education.
 - Spending increases should come after efficiency analyses, fiscal accountability and cost savings are applied in areas where the return is highest (teachers/teacher professional development, higher education, workforce development)

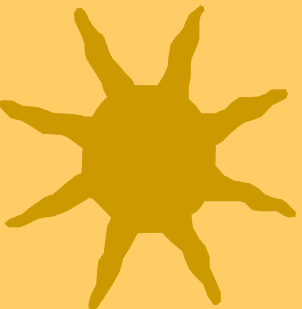


Question One



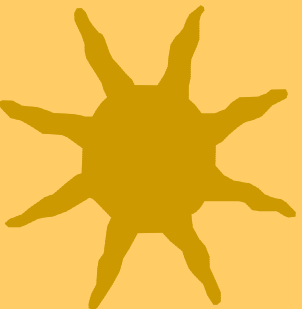
★ Examination of the literature shows that there are positive impacts on:

- Economic Growth
- Productivity
- Society at large





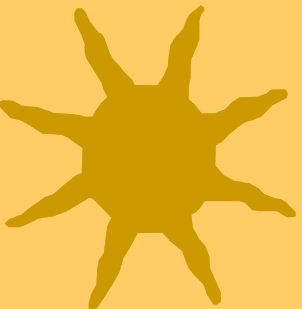
Needs



-
- ★ The United States has experienced a fundamental shift in the Labor Market.
 - The growth of “Knowledge Industries”
 - The growth of “Service Industries”
 - Increased international competition
 - Multinational corporations
 - Shorter product life cycles
 - Project-based workplaces (Kingsley, 1995, 2000)



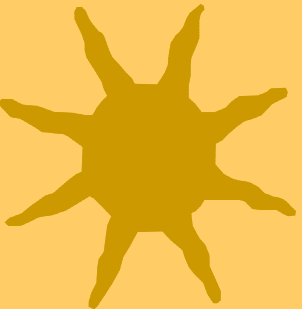
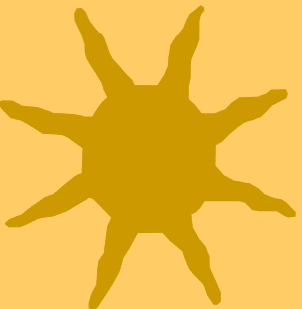
Needs



- ★ Today, nearly six in ten jobs are held by workers with at least some college, compared to two in ten in 1959.
- ★ The income gap between those with a college education and those without is larger in the United States than any other industrialized nation.



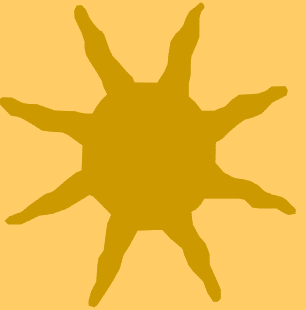
Needs



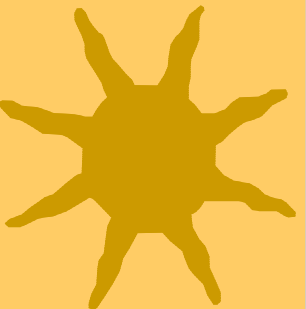
- ★ As the baby boomers retire we will be hard pressed to produce a sufficient number of Americans with postsecondary schooling to meet our labor needs. Shortages of workers with some college-level training may increase to more than 12 million by 2020.



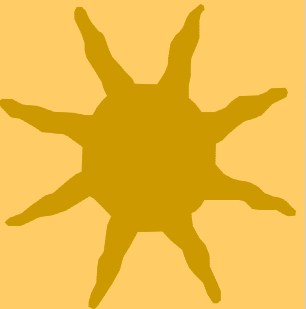
Is New Mexico Prepared?



★ The % of 18-24-year-olds with a HS diploma.....79%



★ The % of low-income 8th graders scoring at or above “proficient” on the NAEP math.....7%



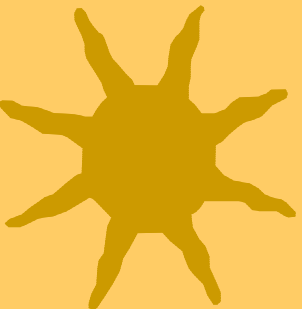
★ The % of New Mexico’s HS freshmen enrolling in college within 4 years in any state..... 35%

★ The % population aged 25-65 with a bachelor’s degree or higher23%

★ The % increase to total personal income as a result of the % of population holding a BA..... 8%



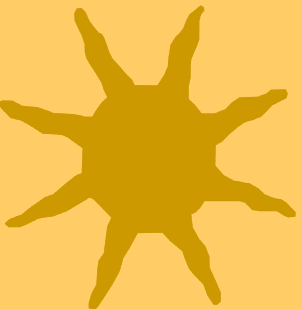
Needs, Summary



- ★ The Labor Market is shifting from agriculture and production industries to service and knowledge industries.
- ★ New Mexico is struggling to meet educational goals and employers' needs.



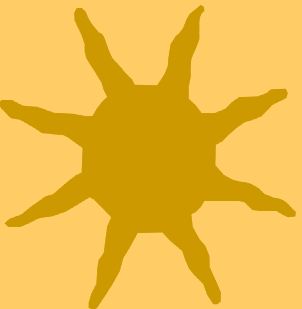
Productivity & Growth



- ★ Productivity research tells us that:
 - The quality and quantity of individual's job productivity is positively related to education.
 - How much schooling individuals take is an important factor in increased productivity.
(more= better)
- ★ Growth research tells us that:
 - Education is responsible for significant personal income growth.



Productivity and Growth, Summary

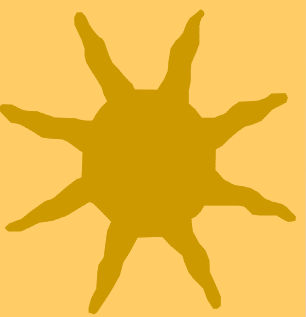


★ Research shows that the investments have indeed paid off.

- There are very strong relationships between investments in human capital and economic growth.
- Human capital variations are the major element in explaining the differences in productivity and productivity growth among countries.
- Investment returns are strongest when made in primary and secondary education.
- Individual level of educational attainment is a significant determining factor in life-time earnings and social mobility.
- On-the-job skills training, when combined with high levels of initial education have the greatest growth yields.

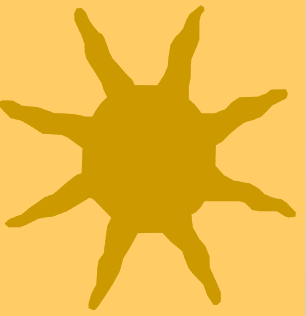


Question Two: What are the Benefits of Investing in Public Education?

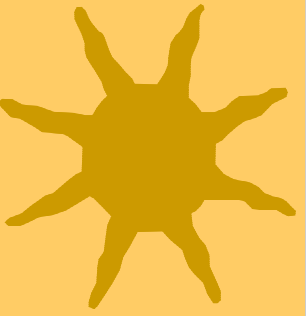


★ Cross-National Comparisons

★ In a study of 66 countries, Marris (1982) found that:



- Cost-benefit ratios for investment in **primary and secondary** education ranged from 3.4 and 7.4, whereas cost-benefit ratios for investments in nonhuman capital ranged only between .04 and 1.0.



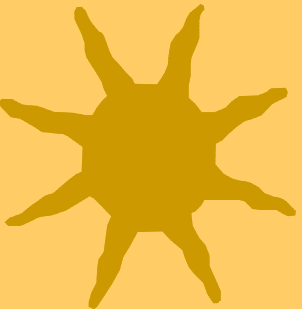
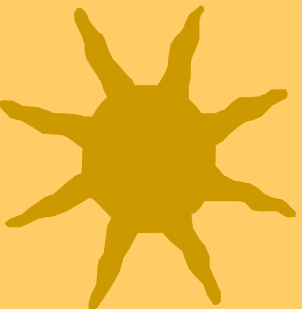


Question Two



★ Social Benefits:

- Lower drop-out rates
- Lower crime rates
- Lower welfare expenditures
- Lower criminal justice expenditures



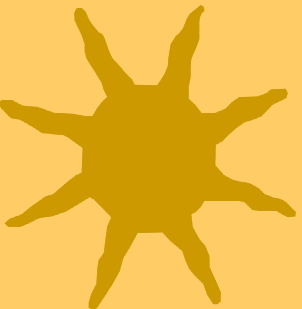
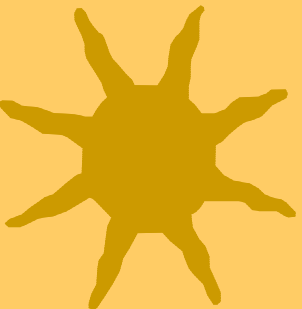


Question Two



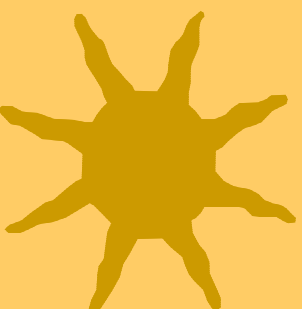
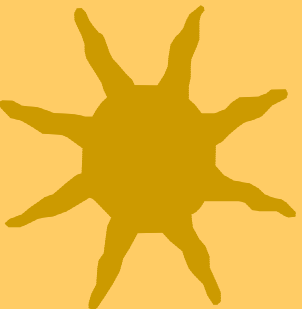
★ Economic Benefits:

- Increased Gross National Product
- Increased Gross State Product
- Increased employee productivity
- Advances in Research & Development
- Increased # of companies choosing to locate to NM





Economic Benefits: Cost Analysis



★ Studies from the Field...Dropout Prevention

- Levin (1972) calculated that the loss of lifetime earnings and tax revenues for every male between the ages of 25 and 34 years of age who did not complete high school was **\$237 billion**. Additionally, Levin estimated that this same cohort of non-completers contributed approximately **\$6 billion** to the costs of welfare and crime in 1970.
- When adjusted for inflation, in today's dollars, the estimated tax revenue loss from the same number of dropouts would be approximately **\$944 billion**, with cost increases to public welfare and crime at **\$24 billion**.



Economic Benefits: Cost Analysis



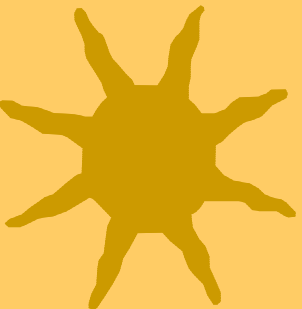
★ Studies from the Field... Preschool Educational Investment

- Barnett (1985) found that children who received quality pre-school education (Head Start) experienced better school achievement, educational placement, educational attainment and employment.
- The study showed a cost-benefit ratio of 1:7.
- Approximately 80% of the net benefits were passed onto taxpayers in the form of higher tax contributions and lower expenditures on remedial education, crime, and welfare prevention, property losses, and health care.





Economic Benefits: Cost Analysis



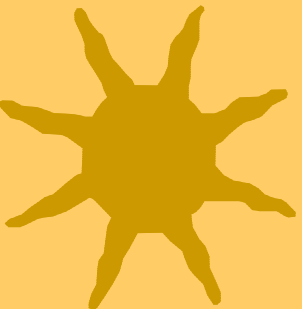
- ★ Studies from the Field... Higher Education Loans
 - St. John & Masten (1990) compared tax revenues generated by the additional income produced by the higher levels of college participation among low-income students with the costs of financial aid programs. The net value of the additional tax revenues was **four times** as great as the cost of the aid program, or a cost-benefit ratio of 1:4.



How Do We Encourage Businesses to Locate to New Mexico?



★ Companies, when making location decisions, give heavy consideration to the education and skill levels of residents.



★ A 1994 survey by Ernst and Young found that an educated labor force was the second highest factor (behind lease rates) in determination of location.



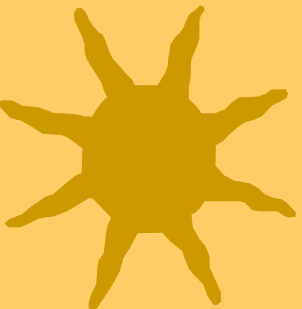
★ Additionally, *Money* magazine reported that an educated workforce is one of the top five characteristics that contribute to an area's economic vitality (National Alliance for Business, 2000)



Benefits of Education, Summary



- ★ Education leads to increased tax revenue.
- ★ There are significant returns on investment in education.
- ★ An educated workforce is one of the key attractors of new business and economic development.
- ★ Education reduces crime, and lessens the cost of social services on taxpayers.

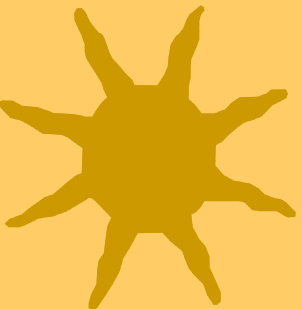




Question Three: Where Should We Invest?



★ Increased spending for public education, thus far, has not increased student achievement.



★ This finding has prompted researchers to examine what things **do** correlate to increasing student achievement.





Question Three



★ What are the best areas to invest in public education?

- Teacher salaries/recruitment
- Focused professional development
- Higher education
- Workforce training



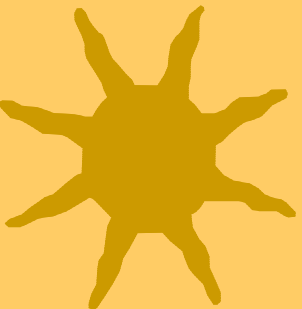


Where Should We Invest?



★ Teachers

- New techniques allow researchers to look at the differences that individual teachers have on student achievement. (termed “Multi-Level Research”)
 - Roughly 20% of the differences in student achievement is due to the schools students attend.
 - 20% is due to *teachers*.
 - 60% is due to individual difference in students, including socioeconomic status and *prior achievement*.



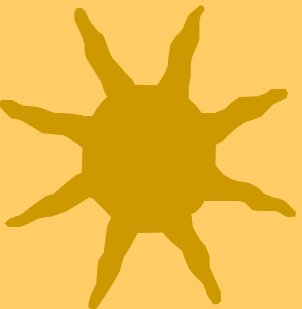
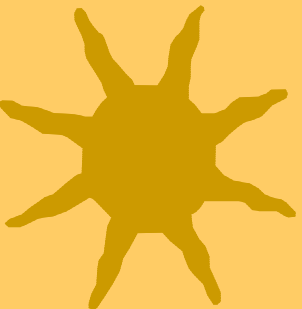


Where Should We Invest?



★ Teachers

- One good teacher can help a student achieve.
- One ineffective teacher can severely impair student achievement.
- Several good or bad teachers, year after year, have a *compounding* effect on student achievement.



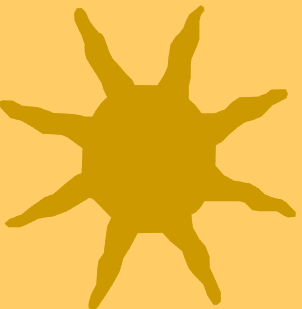


Where Should We Invest?



★ Teachers

- In Tennessee, Sander and Rivers (1996) demonstrated this effect.
- Tracked student achievement over three years.
- Students who received 3 effective teachers scored in the **83rd** percentile in math.
- Students who received 3 ineffective teachers scored at the **29th** percentile.





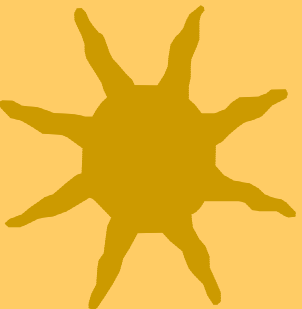
Where Should We Invest?



- ★ What teacher qualities make the biggest differences?
 - Overall academic abilities
 - Intensive, focused professional development
 - Content knowledge
 - Experience
- (Whitehurst, 2002)



Investing in Teachers



- ★ Investing in the recruitment of high-quality graduates—get the best and the brightest— and pay them accordingly. *Make teaching economically attractive to our best grads.*
- ★ Investing in high-quality, professional development that focuses not only on general skills and content standards, but on content itself.
- ★ Investing in mentoring to allow experienced teachers to pass on their knowledge to the next generation.



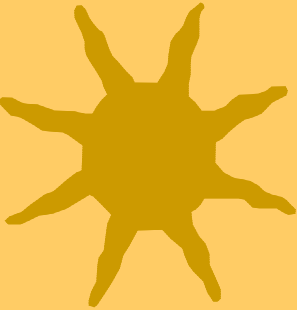
Investing In Higher Education



- ★ Spending on higher education is an important contributing factor in Gross State Product (Evans & Karras, 1994)
- ★ Spending on and quality of a state's higher education system are important factors in economic growth (Jones & Vedlitz, 1998)
- ★ There is a positive correlation between the number of persons with a college degree and income growth (Glaeser, 1994)
- ★ A **1%** increase in higher education spending would increase states manufacturing output by **8.3%** (Upjohn Institute)



Investing in Higher Education



★ Average yearly salaries for individuals who...

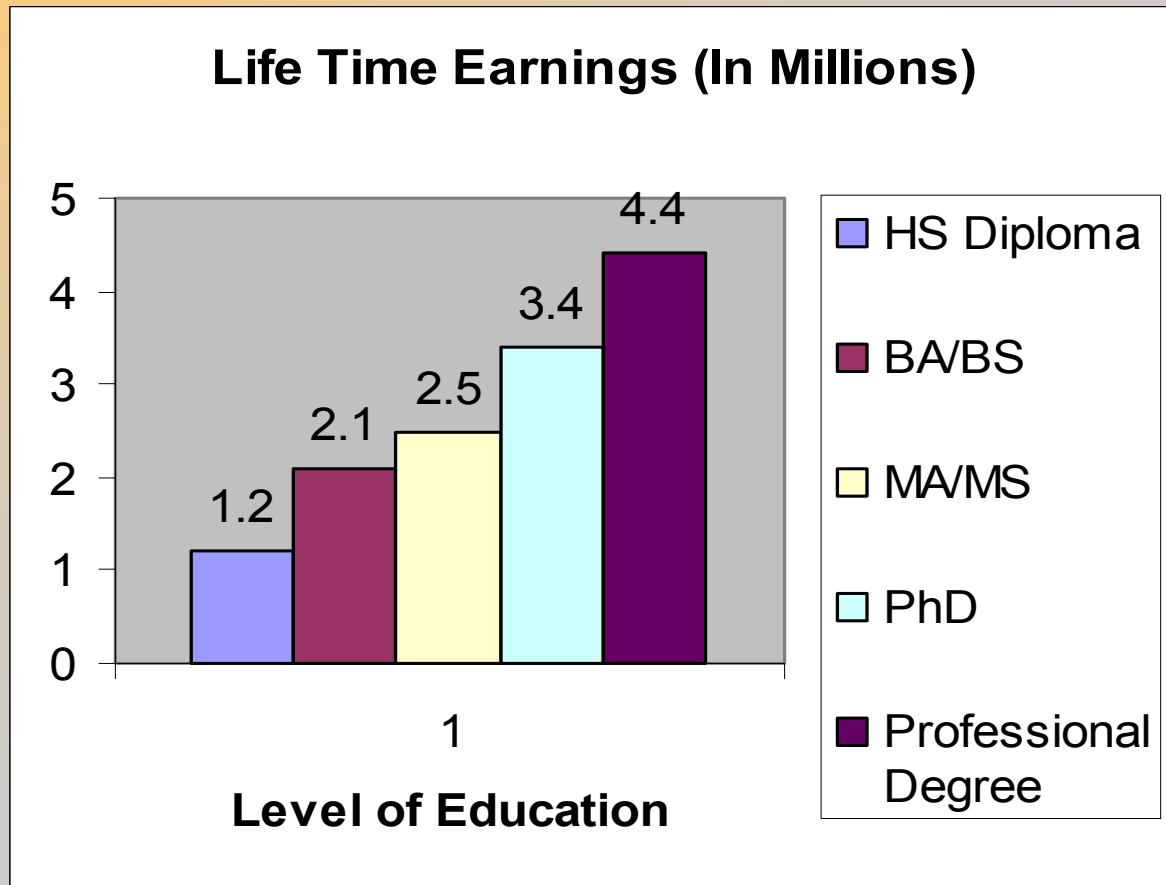
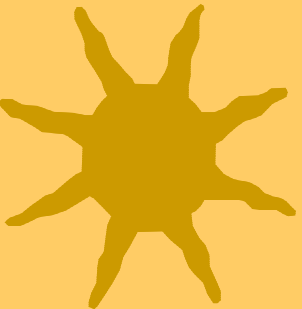
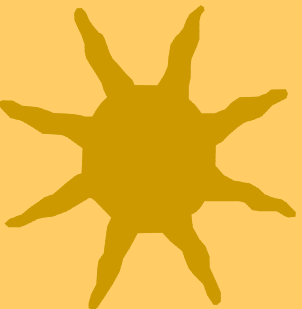
- Dropout = \$21,025
- Graduate High School = \$28,123
- Get a 2-Year (Associate's) Degree = \$32,500
- Get a 4-Year (BA/BS) Degree = \$45,489
- Get a Masters = \$57,170
- Get a Professional (MD/JD) Degree = \$79,952
- Get a Ph.D. = \$70,883

(US Bureau of the Census, 2000)





Numbers Don't Lie



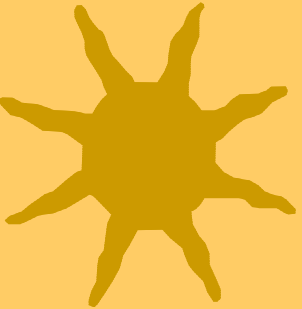
Source: ABQ Journal, July 28, 2002



Investing in Workforce Training



★ Investing in public education is the long-term, sustainable solution for creating a quality workforce and favorable labor market.



★ The fruits of investing in public education take a minimum of **8-10 years** to become visible and measurable.



★ Investing in workforce training for those already in the labor force will help bridge the labor/skills gap we already face.



Where Should We Invest?

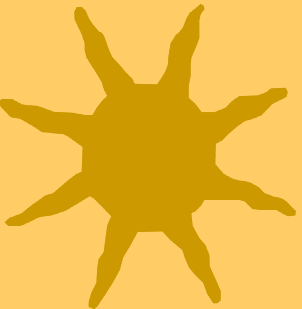
Summary



- ★ Student achievement is best impacted through investments in
 - Teachers, Teacher salaries and Teacher Training
 - Higher Education
 - Workforce Training
 - Early childhood education
 - Student loans for higher ed
 - Dropout prevention



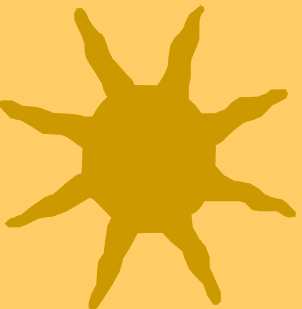
Question Four



- ★ What is the relationship between public school spending and student achievement?
 - Simply raising per-pupil spending does not increase student achievement.
 - Money must be focused on increasing quality teaching and preparing students for higher education and the labor market.
 - Resources should focus on instruction rather than services or capital expenditures.



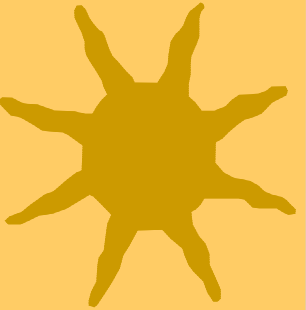
Spending and Student Achievement



- ★ Where is money currently being spent?
 - 60% of resources are currently being spent on direct instruction resources.
 - In 1960, this money was largely being spent to hire licensed teachers.
 - Today, that money is being spent on instructional specialists and teacher aids, rather than on full time educators. (Odden, et al, 2002)

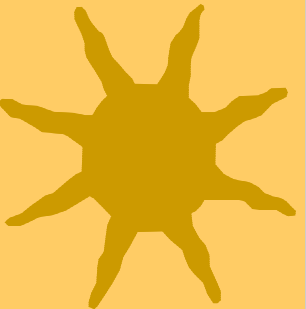
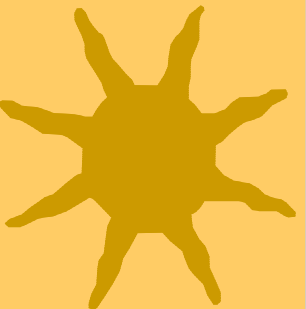


Question Five: How Do We Pay for Reform?



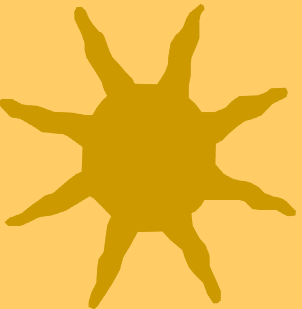
★ New Uses of Resources

- Simply adding more resources does not automatically lead to greater student achievement. (Hanushek, 1997)
- Money invested in education must be targeted towards those aspects that make a difference.





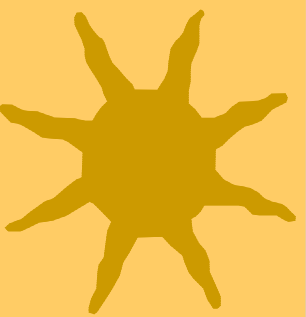
Question Five



- ★ Where do states typically find the money to increase spending on public education?
 - Cost savings
 - Cost reallocation
 - New funding sources

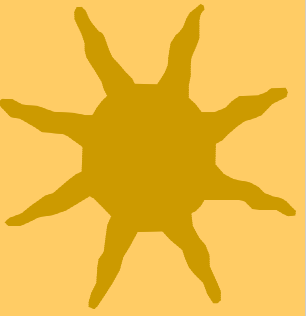
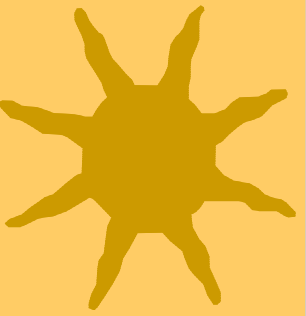


Put Money Where it Matters



★ School Finance

- Weglinsky (1998) found that where money is spent does make a significant difference in student achievement.
- He found that money spent on administration had **no impact** on student achievement. He found that money spent on instruction (teacher salary, instructional materials, class size) had a significant impact on student achievement.
- He also found that investments made in lower grades, had a greater impact on later achievement. (The “snowball effect”)





How Can We Improve?



★ It is commonly assumed that hiring teachers with more advanced degrees is the most cost-effective way to increase student achievement.

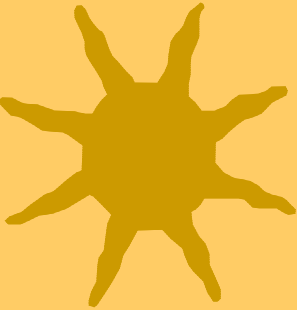


★ This assumption, however, is *wrong*: good teacher education programs and professional development have a much stronger effect on student achievement than advanced degrees. (Hanushek, 1997)





Funding Sources



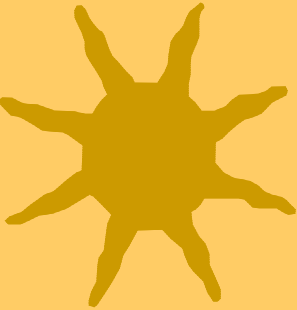
★ Possible new sources of funding

- Gaming funds
- Lottery funds
- Sales tax funds
- Tobacco settlement proceeds
- Property taxes
- Hotel/motel taxes
- Alcohol & tobacco taxes
- Permanent Funds: LGPF, STPF





Funding Sources



★ Examples of how these sources have been utilized in other states:

- North Carolina created a 1% sales tax increase devoted to teacher pay.
- South Carolina created a 1% sales tax increase devoted to teacher quality issues.
- New Hampshire utilized tobacco settlement money for education.
- Georgia uses lottery funds for early childhood and scholarship programs.



How Can We Improve?

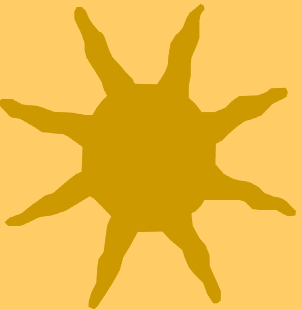
Summary



★ Establish a “Gold Standard” for spending efficiency.



★ Spend less on administration, more on teachers and instruction.



★ Invest in good teacher education programs and professional development.

★ Find new sources of funding.