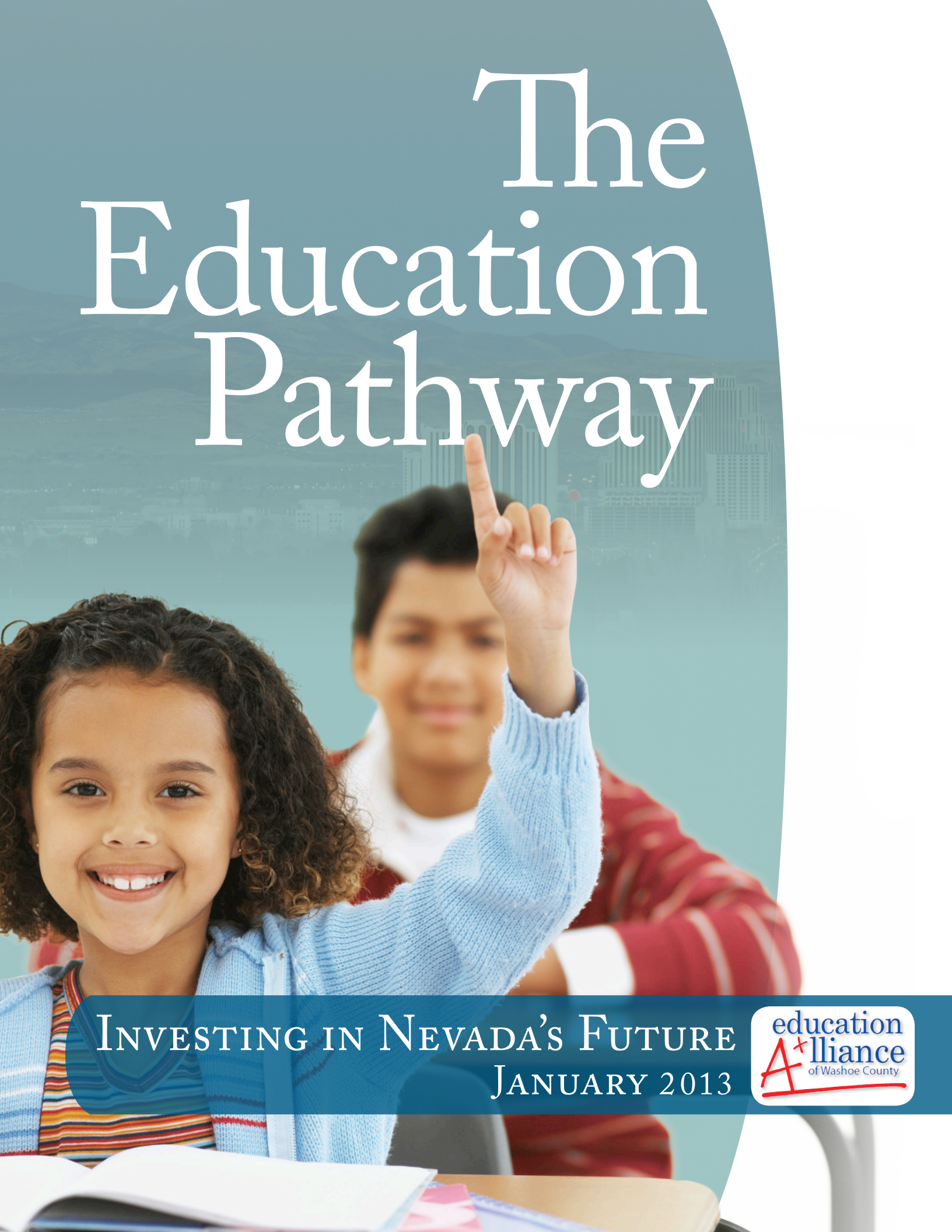
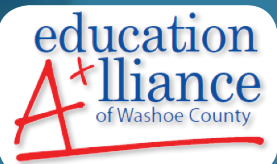


# The Education Pathway



INVESTING IN NEVADA'S FUTURE  
JANUARY 2013



# THE EDUCATION PATHWAY: INVESTING IN NEVADA'S FUTURE

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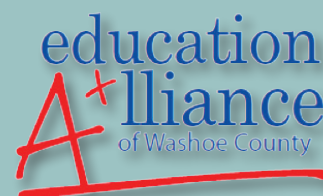
### **AUTHORED BY MEMBERS OF THE EDUCATION ALLIANCE OF WASHOE COUNTY.**

The Education Alliance is a 501 (c) (3) non-profit organization in existence for over 20 years. It consists of business and public representatives focused on improving the education of all students from pre-Kindergarten through higher education by supporting programs focused on improving academic achievement, community partnerships, and workforce development.

The Education Alliance has 45 community, business and education representatives on our Board and Committees. The authors of this document are members of the P-16 Advocacy Council of the Education Alliance.

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# EXECUTIVE SUMMARY

Nevada leads the nation in unemployment and in low academic achievement. But the recent gains in academic performance cannot be ignored. An improving system must be supported with investment in the entire Pathway of pre-Kindergarten through higher education. Each year, 30,000 students are poised to graduate from Nevada high schools. Failure to address all phases of the education continuum means we will see many of these 30,000 students fall short of being qualified for the post-secondary and career opportunities in Nevada.

The research presented in this paper shows the link between Nevada's education system and the current state of the economy. The findings support the importance of an adequately funded education Pathway for economic prosperity.

## INTRODUCTION

- Education is key to a sound economy and the ability of Nevadans to secure high-quality employment.
- The relationship between state per-pupil funding and 8th grade scores in math and reading indicates that Nevada is still behind the national mean in test scores and per-pupil funding.
- For Nevada to develop a highly-skilled and highly-educated workforce, investments must be made in all levels of education, from pre-Kindergarten to higher education.

## EARLY CARE AND EDUCATION (ECE)

- ECE is the basis of a strong educational infrastructure, beginning with pre-Kindergarten through 3rd grade.
- Quality ECE helps ensure a strong future workforce and is a critical support for the current workforce.
- Investment in ECE yields at least \$13:\$1 investment to the public, along with other socio-economic and educational advantages.

## THE MIDDLE YEARS: GRADES 4-12

- Nevada's children in grades 4 through 12 are not performing at the levels necessary to prepare them for further education and future opportunities in the workforce. Improvements have been modest, and more funding will support an improving product.
- Implementation of the Common Core State Standards and an emphasis on STEAM (science, technology, engineering, arts, and mathematics) education will require adequate funding for teacher training and new assessments.
- Career and College Readiness must be a statewide goal to replace the GDP lost as baby boomers are retiring and highly-skilled jobs remain unfilled.

## HIGHER EDUCATION

- Faculty at Nevada's higher education institutions are the driving force behind research and development, which stimulates economic development.
- With graduation rates growing at community colleges, these are essential for workforce preparation and require continued support.
- Cuts to higher education have a huge negative impact on Nevada's economy.

## ECONOMIC FACTORS

- Nevada ranks as only the 45th best state for business in the U.S.
- Nevada has a favorable business tax climate, but is not attracting businesses because the education system needs continued improvement, the education level of the overall workforce is low, and support for innovation is weak in Nevada.
- By 2018, the majority of jobs in Nevada will require some post-secondary training beyond high school.



# INTRODUCTION

“TODAY’S ECONOMIC REALITY IS REMARKABLY DIFFERENT FROM THE 20TH CENTURY MODEL THAT DELIVERED SO MUCH SUCCESS FOR OUR STATE. NEVADA’S WORKFORCE NEEDS ARE CHANGING AS WELL. THERE WAS A DAY WHEN THOUSANDS OF NEVADANS COULD FIND WORK WITH ONLY A HIGH SCHOOL DIPLOMA — OR EVEN WITHOUT GRADUATING FROM HIGH SCHOOL AT ALL. BUT IF WE ARE TO COMPETE IN THE 21ST CENTURY ECONOMY, THIS IS NO LONGER TRUE. FUTURE EMPLOYMENT WILL REQUIRE SIGNIFICANTLY HIGHER LEVELS OF EDUCATION.”

Governor Brian Sandoval, October 2011, Las Vegas Sun

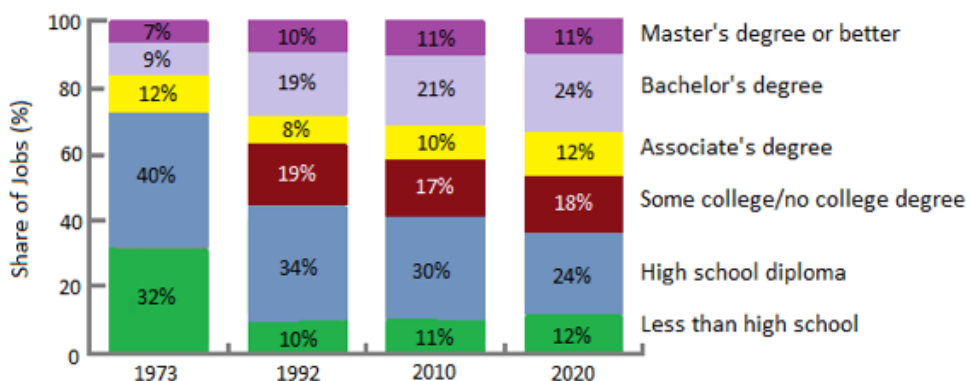
There is an indelible and ever intensifying link between education, a sound economy, and the ability of Nevadans to secure quality employment. In September 2012, Georgetown University’s Public Policy Institute published a study concluding, “The downward plight of high school graduates did not begin yesterday. It is a story that goes back at least 40 years and represents a structural change in the United States economy, demarcated by rising educational requirements across the labor market and a smaller share of the economic pie for high school-educated workers.”<sup>4</sup>

*Nevada persists with the nation’s highest unemployment rate at 10.2%.<sup>1</sup>*

*Nevada ranks 45th in “well educated” states with only 21.8% of the population aged 25+ holding a Bachelor’s degree or higher.<sup>2</sup>*

*Nevada ranks last in the nation with a reported 62% high school graduation rate.<sup>3</sup>*

TWO OUT OF THREE U.S. JOBS WILL REQUIRE POSTSECONDARY EDUCATION

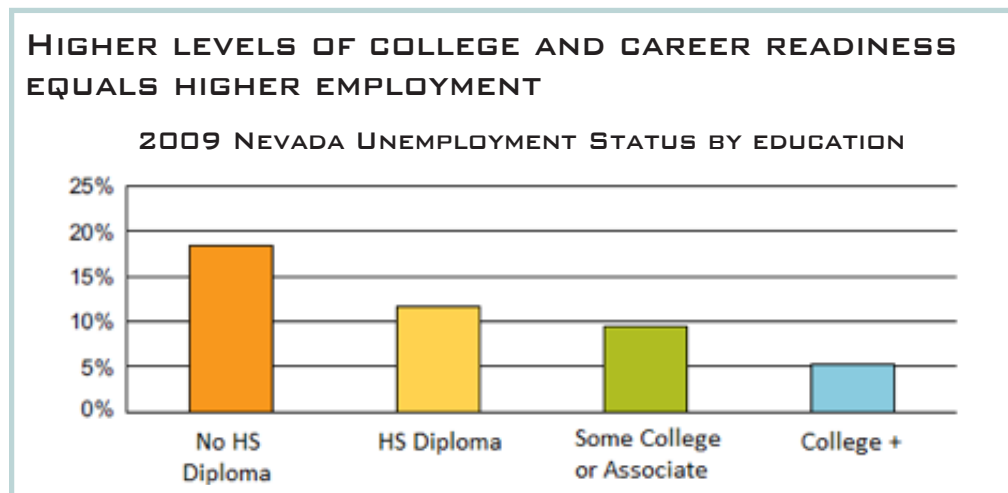


Source: Authors' analysis of March Current Population Survey data, various years; forecast of educational demand to 2020.

Recognizing the economic trend demanding more post-secondary education and/or training is especially relevant to the state of Nevada. According to most recent U.S. Census Bureau findings, only 21.8% of Nevada’s population ages 25 or older possesses a Bachelor’s degree or higher. That places Nevada 45th on the list of “well educated” states – a full 17.9% behind #1, Massachusetts, and only a bare 2.9% ahead of #47, Mississippi.

Moreover, the U.S. Department of Education reported that in 2011 Nevada was the state with the lowest high school graduation rate in the nation.

The correlation between education and Nevada's economy is further confirmed in a 2011 study that breaks down Nevada's unemployment picture based on levels of education.<sup>5</sup>



Nevada leads the nation in unemployment, and lags the nation in having a “well educated” workforce. There is a direct correlation between educational attainment and employment opportunities. We must now ask, “How can we develop a more highly educated workforce in our state?”

**“IN THE LONG RUN, SIGNIFICANT IMPROVEMENTS IN THE SKILL LEVELS OF AMERICAN WORKERS, ESPECIALLY WORKERS NOT ATTENDING COLLEGE, ARE UNLIKELY WITHOUT SUBSTANTIAL IMPROVEMENTS IN THE ARRANGEMENTS THAT FOSTER EARLY LEARNING. WE CANNOT AFFORD TO POSTPONE INVESTING IN CHILDREN UNTIL THEY BECOME ADULTS...LEARNING IS A DYNAMIC PROCESS AND IS MOST EFFECTIVE WHEN IT BEGINS AT A YOUNG AGE AND CONTINUES THROUGH TO ADULthood.”<sup>6</sup>**

Early childhood development is essential in the construction of a solid foundation for learning. New building blocks need to be continuously erected upon that foundation, and only then can the highly-skilled, highly-educated capstone be appropriately fixed in place. Education is a long-term investment and commitment from both the educator and the learner.

Investment in pre-Kindergarten through higher education systems (pre-K-16)—the foundation, the building blocks, the capstone—comes in many forms. The commitment of financial capital to fund these institutions is vital. Critical, too, is the application of human capital.

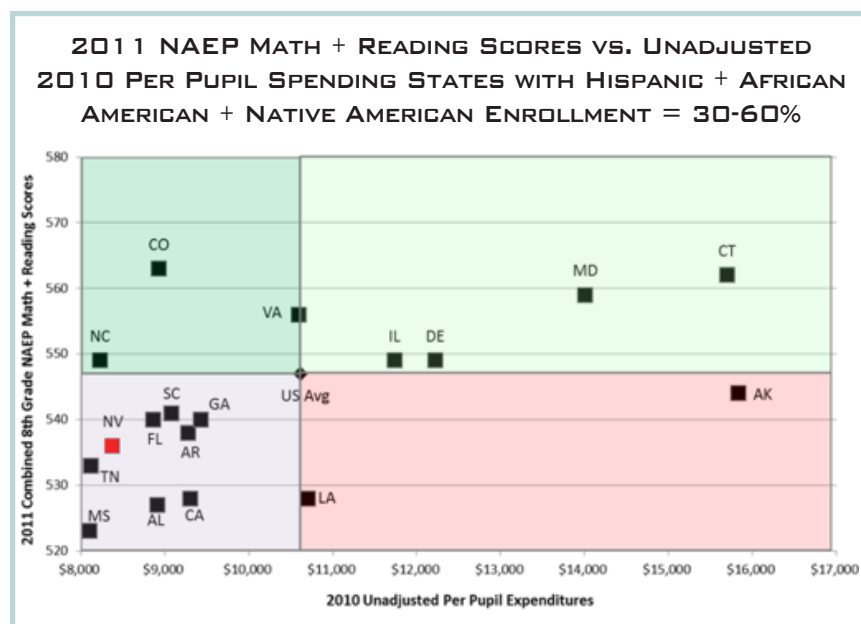
*In 2012, 39 states provided state funds for pre-K programs. Nevada ranks next to last (on both a gross and per capita basis) in providing these funds.<sup>7</sup>*

*Nevada ranks 48th (out of 48 states reporting) with 52% of children ages 3-5 not in nursery school, pre-school or kindergarten.<sup>8</sup>*

*Nevada's 4th grade reading NAEP scores were lower than 39 states. Nevada's 4th grade math NAEP scores were lower than 32 states.<sup>9</sup>*

*A student reading below grade level in 3rd grade has less than a 50% chance to graduate high school and less than a 20% chance of enrolling in college.<sup>10</sup>*

Of course, what is ultimately important about the investments Nevada makes in children's education is how those assets translate into results. In 2011, the Education Alliance of Washoe County introduced a scattergram showing the relationship between state per-pupil funding and 8th grade National Assessment of Educational Progress (NAEP) scores.<sup>11</sup> Nevada has yet to reach even the average U.S. level of funding, which if met, would likely bring about at least an 11-point increase in math and reading scores. States like Florida and Colorado, which perform better than Nevada, invest closer to \$9,000 per student. Ultimately, Nevada's financial investment does not rise to the national mean, and Nevada is not producing desirable results.



Yet even during these difficult economic times, many educators, administrators and leaders—Nevada's invested human capital—have shown tremendous drive and initiative in shaping a better education system in Nevada. Initiatives that demonstrate a desire to address issues facing Nevada's education system include *Nevada's Promise*, the Common Core State Standards, the Smarter Balanced Assessment Consortium, a more robust CTE curriculum, a statewide commitment to college and career readiness, more business and community involvement, and high school academies.

In the following chapters, the significance of early care and education, investing in grades 4-12, and promoting higher education is explored. The goal is to demonstrate that a robust education system at all levels, if properly supported, can fuel promising economic success.

## A SUCCESS STORY

### DEAN'S FUTURE SCHOLARS PROGRAM

Dean's Future Scholars (DFS) is an academic outreach program housed in the College of Education at UNR. Each year, DFS recruits approximately 50 low-income WCSD students from the 6th grade whose parents did not attend college ("first generation students").

The goal of DFS is to increase the number of low-income, first generation students graduating from high school, gaining access to higher education, and entering highly skilled careers.

### RESULTS IN 2012:

**85% high school grad rate**

**65% enrollment in post-secondary education (52% at UNR and 13% at TMCC)**

**3.06 GPA for seniors**

**59% Honors or Advanced diplomas**

**The DFS cohort in 2012 was 93.5% non-Caucasian**

DFS's success demonstrates what can happen when capital investment, human resources, and ingenuity come together with the aim of improving student achievement.



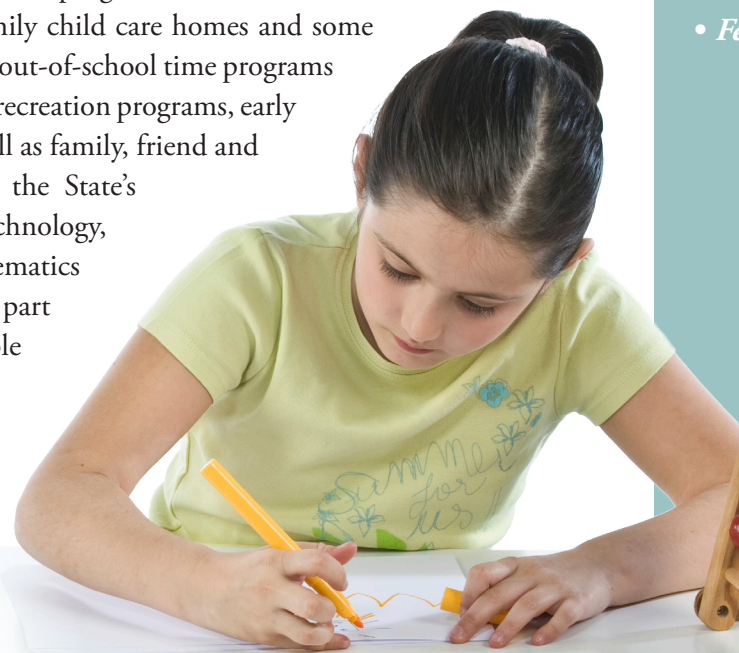
# EARLY CARE AND EDUCATION

CHILD DEVELOPMENT IS A FOUNDATION FOR COMMUNITY DEVELOPMENT AND ECONOMIC DEVELOPMENT, AS CAPABLE CHILDREN BECOME THE FOUNDATION OF A PROSPEROUS AND SUSTAINABLE SOCIETY AND ECONOMY. NEVADA'S CURRENT POPULATION OF CHILDREN WILL BECOME TOMORROW'S CITIZENS, WORKERS, TAX PAYERS, AND PARENTS. IF NEVADA CONTINUES TO FALL SHORT IN PROVIDING THE STATE'S CHILDREN WITH WHAT THEY NEED TO BUILD A STRONG FOUNDATION FOR HEALTHY AND PRODUCTIVE LIVES, THE STATE'S FUTURE PROSPERITY AND ECONOMIC SECURITY ARE AT RISK. IT IS WELL KNOWN THAT INVESTING \$1 IN EARLY CARE AND EDUCATION YIELDS AT LEAST \$13 TO THE PUBLIC,<sup>12</sup> SO IT IS A CRITICAL PREREQUISITE FOR FUTURE ECONOMIC PRODUCTIVITY AND RESPONSIBLE CITIZENSHIP IN NEVADA.

**DEFINING EARLY CARE AND EDUCATION (ECE).** The definition for ECE by The Economic Impact of Early Care and Education in Nevada<sup>13</sup> provides an important framework for understanding early care and education. This report uses the term early care and education to “describe a range of programs that are outside the traditional K-12 educational system that provide care and education to children ages birth through age 12. ECE encompasses not only the child care and early education programs that serve infants, toddlers and young children before they enter school, but also some licensed after-school and out-of-school-time programs that are used by school children through age 12. ECE programs include all licensed ECE settings (e.g. centers and family child care homes and some license-exempt settings; pre-K and out-of-school time programs operated by school districts, youth recreation programs, early childhood special education, as well as family, friend and neighbor providers registered on the State’s subsidy program).” Science, technology, engineering, arts, and mathematics (STEAM) should be an integral part of child’s life as soon as possible for a child’s brain to exercise and develop its mental faculties.

*Young children who attend higher-quality and more stable ECE programs have the following characteristics through elementary school<sup>15</sup>:*

- Improved math and language ability
- Enhanced cognitive and social skills
- Fewer behavioral issues

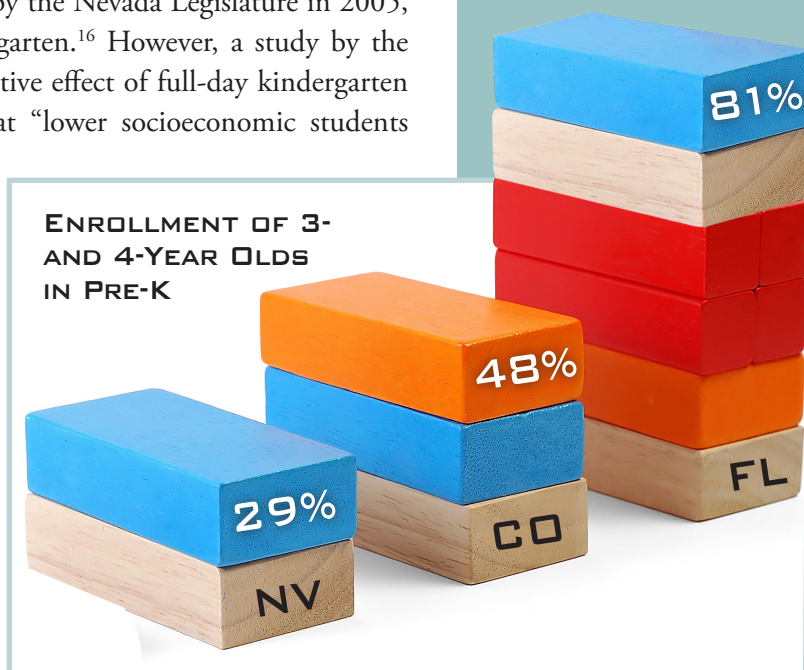


**QUALITY ECE IS THE BASIS OF A STRONG EDUCATIONAL INFRASTRUCTURE.** It will be hard for Nevada to diversify its economy without a skilled and educated workforce which must be grounded in ECE. In addition, young and highly educated workers and parents of young children from outside the State may be attracted by a high quality ECE system.<sup>14</sup>

While Nevada law requires children be 5 years old to enroll in kindergarten, Nevada law does not require enrollment in kindergarten. Compulsory school attendance is only required from age 7.<sup>16</sup> The Nevada Legislative Counsel Bureau reported in its 2012 research brief on full-day kindergarten that some states have transitioned from half-day to full-day kindergarten based on a number of factors relevant to Nevada: an increase in the number families where both parents or the only parent work full-time, evidence that early childhood programs—including full-day kindergarten<sup>17</sup>—contribute to later school success, an increase in the number of students with limited English language skills, and greater numbers of educationally and economically disadvantaged students.

State-funded, full-day kindergarten was approved by the Nevada Legislature in 2005, but districts do not need to offer full-day kindergarten.<sup>16</sup> However, a study by the Clark County School District highlighted the positive effect of full-day kindergarten on student academic achievement, indicating that “lower socioeconomic students enrolled in full-day kindergarten demonstrated greater rates of literacy growth over the course of the year than closely-matched half-day students.”<sup>17</sup> A similar study in 2011 found that 3rd and 4th grade students who attended full-day kindergarten also outperformed students who attended half-day kindergarten in reading and mathematics.<sup>17</sup>

Investing in ECE clearly secures academic benefits. ECE is also aligned with Governor Sandoval’s goal of “Read by Three,”<sup>18</sup> and the expansion of full-day kindergarten. With quality ECE, these are fully achievable goals.



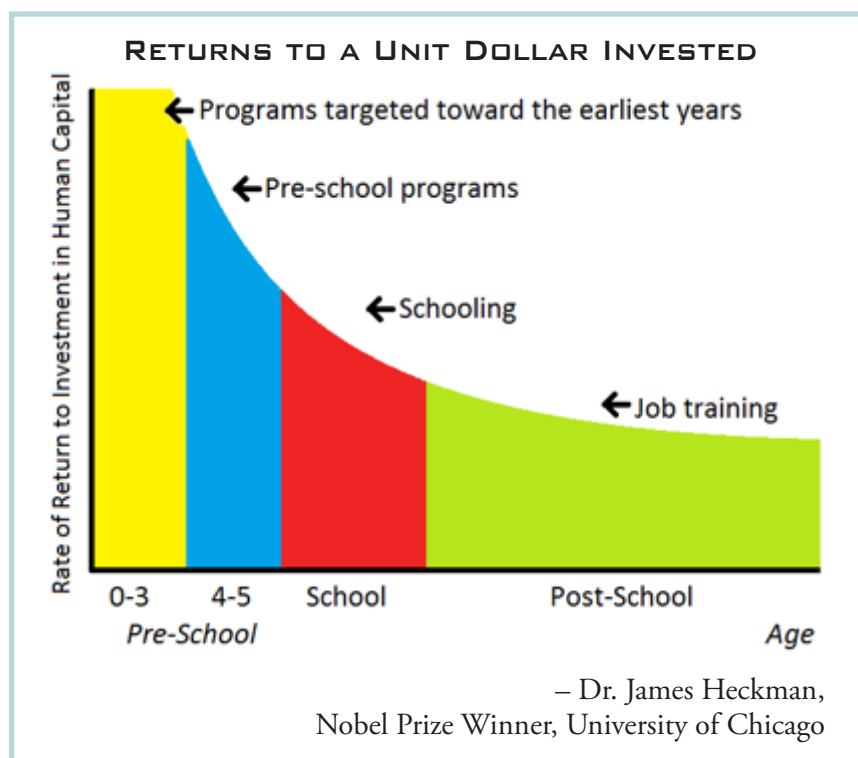
**“INVESTMENTS IN HIGH-QUALITY EARLY LEARNING PROGRAMS FOR CHILDREN FROM BIRTH TO AGE FIVE YIELD HIGH RETURNS. IN FACT, RESEARCH SHOWS THAT FOR EVERY DOLLAR INVESTED TODAY, SAVINGS RANGE FROM \$2.50 TO AS MUCH AS \$17 IN THE YEARS AHEAD.”**

—U.S. Chamber of Commerce, Why Business Should Support Early Childhood Education, 2010



## QUALITY ECE HELPS ENSURE A STRONG FUTURE WORKFORCE.

Recent research on early brain development provides conclusive evidence that high-quality ECE for children from birth through age five is a critical foundation for future academic and workforce success.<sup>19</sup> Three separate longitudinal studies of targeted, intensive intervention programs for low-income children have indicated significant and positive long-term outcomes in areas such as grade repetition and special education needs, higher educational attainment and home ownership in adulthood. Many of the outcomes reduce future public spending in such areas as K-12 education, criminal justice and welfare assistance, which result in a 12% rate of public return on investment.<sup>20</sup> Furthermore, research shows that in addition to their traditional role of promoting healthy development, high-quality early childhood programs can serve as an effective early warning system to address risky situations and incorporate child abuse prevention strategies.



**“EDUCATING CHILDREN...AT AN EARLY AGE INCREASES THEIR OPPORTUNITIES AND BENEFITS THE LARGER ECONOMY.”**

-Federal Reserve Chairman Ben Bernanke, Conference of the Children's Defense Fund, Cincinnati, 2012.

Researchers at High/Scope Perry have followed the two groups for the past 40 years, and the findings are compelling: those who attended quality preschool outperform those who did not in education, economic performance, crime prevention, family relations, and health. Indeed, the investment made in their early education has yielded growing results throughout their lifetimes.

**SPECIFICALLY, THE PROGRAM GROUP AT AGE 40, COMPARED TO THE NON-PROGRAM GROUP:**

- was 20% more likely to have graduated from high school;
- was 14% more likely to be employed;
- had \$5,500 more in annual earnings;
- had a 9% higher chance of becoming home-owners;
- was 26% more likely to have a savings account;
- had significantly fewer lifetime arrests (36% vs. 55% arrested five or more times) and significantly fewer months in prison or jail by age 40 (28% vs. 52% ever sentenced).

**QUALITY ECE IS A CRITICAL SUPPORT FOR THE CURRENT WORKFORCE.**

Access to affordable, high quality ECE promotes career development and educational advancement, drives labor force productivity, decreases absenteeism and employee turnover, and enhances employee recruitment and retention. Nevada has a shortage of highly skilled and educated workers, which undermines the State's ability to attract new businesses with higher paying jobs and thus impedes the State's long-term economic prosperity. A more educated and skilled workforce builds economic prosperity by attracting employers who pay higher wages and offer greater benefits. Educational advancement for parents translates to higher incomes and reduces the likelihood of needing various forms of government support. In a national study investigating higher education opportunities for individuals transitioning from welfare to work, researchers found that 88% of welfare recipients who obtained four-year college degrees discontinued participation in welfare after earning their degree.<sup>21</sup> Innovative ECE solutions not only meet the needs of working families, but they also support productivity and profitability among businesses.

**"NEVADA STAKEHOLDERS HAVE AGREED THAT THE PURPOSE OF PUBLIC EDUCATION IN NEVADA IS TO MEET THE LEARNING NEEDS OF ALL STUDENTS IN ORDER TO PREPARE THEM TO GRADUATE AND TO BE SUCCESSFUL IN POSTSECONDARY ENVIRONMENTS... NEVADA NEEDS TO REFINE AND ENHANCE EDUCATIONAL SYSTEMS THROUGHOUT PRE-K-12 SCHOOLS, COMMUNITY COLLEGES, AND FOUR-YEAR UNIVERSITIES."**

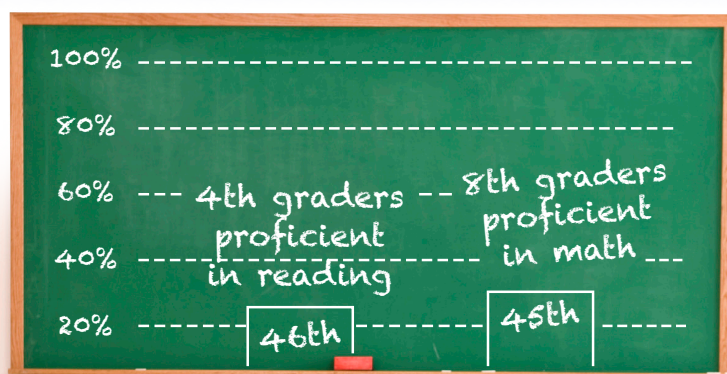
-Nevada's ESEA Flexibility Request, July 21, 2012.

**NEVADA'S ADULT POPULATION HAS LESS EDUCATION THAN THAT OF ITS NEIGHBORING STATES, YET ITS ECONOMIC COMPETITIVENESS MOVING FORWARD RELIES ON AN EDUCATED WORKFORCE. ONE WAY TO BUILD THE EDUCATION OF THE STATE AND TO ATTRACT A MORE EDUCATED WORKFORCE IS TO CREATE A STRONG, HIGH QUALITY ECE SYSTEM.<sup>22</sup> QUALITY ECE WITH A STEAM FOCUS LAYS THE FOUNDATION FOR STRONG ACADEMIC PERFORMANCE, SOCIAL SKILLS, AND DISCIPLINE — KEY ELEMENTS FOR CONTINUED SUCCESS IN HIGHLY-SKILLED AND HIGHER-WAGE-EARNING CAREERS.**

# THE MIDDLE YEARS: GRADES 4-12

THE PROPERLY SUPPORTED EARLY DEVELOPMENT OF A STUDENT, AS DISCUSSED IN THE PRIOR CHAPTER, WILL PROVIDE A SOLID FOUNDATION FOR THE NEXT YEARS IN A STUDENT'S LIFE: 4TH THROUGH 12TH GRADE. "MOVING NEVADA FORWARD: A PLAN FOR EXCELLENCE IN ECONOMIC DEVELOPMENT" PRODUCED BY THE GOVERNOR'S COMMISSION ON ECONOMIC DEVELOPMENT CALLS FOR THE ALIGNMENT OF EDUCATION, CAREER TRAINING, AND WORKFORCE DEVELOPMENT TO TARGETED OPPORTUNITIES. IT IS A CONTINUUM OF SYSTEMIC BUILDING BLOCKS THAT IS DEPENDENT ON A STRONG K-12 EDUCATIONAL PATHWAY THAT MUST BE PROACTIVE, MUST FOCUS ON CAREER AND COLLEGE READINESS, AND MUST ENGAGE STUDENTS AND PARENTS IN THE PROCESS.

Nevada school districts are aligning curriculum and setting assessment standards to transition the early elementary school years to the pathways needed for Nevada's future economy. These alignments are coordinated with the phasing in of the Common Core State Standards, which are based on empirical data, and reflect the shared goal of preparing students for readiness in credit-bearing college courses, apprenticeship and certificate programs, and highly skilled careers. This alignment will ensure students' academic growth and the development of Nevada's next generation of employees to meet the goals established by state leaders.





Nevada's children in grades 4 through 12 have not been performing at the levels of achievement that are necessary to prepare them for further education and future opportunities in the workforce.<sup>23</sup>

It is imperative that Nevada provides its schools with the more rigorous Common Core State Standards, more effective classroom instruction, more widely available academic supports for students at the earliest evidence that intervention is necessary, more accurate assessments of reading, English, and math proficiency, a more reliable statewide data system that tracks student performance from kindergarten through college completion, and adequate financial resources to implement all of these necessities to their fullest.

#### **COMMON CORE STATE STANDARDS WILL HELP PREPARE NEVADA'S STUDENTS.**

Nevada is adopting consistent standards in English and mathematics known as the Common Core State Standards. The Common Core State Standards will provide a more rigorous curriculum, helping reduce the need for remediation in college, which costs Nevada about \$23 million per school year.<sup>26</sup> Common Core State Standards are being adopted across the United States, these standards will help to smooth the transition of an estimated 18,000 students who moved here from out of state in 2009.<sup>27</sup> Students who take at least four years of math in high school (Algebra I & II, Geometry, and additional higher-level courses) are significantly more likely to meet the College Readiness Benchmark<sup>28</sup> in math than those who take only three years or less of mathematics. Similarly, students who take an upper-level sequence of science courses that includes Physics are substantially more likely to reach the College Readiness Benchmark in science than students who took only Biology and Chemistry or less.<sup>29</sup> Nevada will also be adopting more rigorous English and mathematics assessments aligned with the Common Core State Standards, as part of a coalition of states developing the Smarter Balanced Assessments.

But with the current K-12 funding formula, Nevada is not well-equipped to implement the Common Core State Standards. There will be no benefit to students, to the education system, or to the State unless the Core Common Standards are supported by the appropriate physical and human resources.

#### **| LEARNING FROM FLORIDA |**

In 1998, nearly half of Florida's 4th graders were scoring "below basic" on the NAEP reading test. After the successful implementation of the "1999 model" in 2007, Florida dramatically increased reading performance. By 2009, 70% of its students scored basic or better on the reading test.<sup>24</sup> Comprehensive education reforms are cited as factors in Florida students' improvement, along with an increase in financial investment in pre-K-12 education – Florida spends considerably more per-pupil than Nevada.

Some reforms include: increased rigor of academic standards, a new grading formula, investment in early literacy, allowing students in poor-performing public schools to transfer to higher-performing public schools, performance pay for teachers who achieve student gains and who increase the number of students in Advanced Placement (AP) classes, giving low-income students access to AP classes and encouraging them to take college entrance exams, and adopting new teacher and principal evaluations which included distributing to parents school report cards.<sup>25</sup>

All of these reforms required and still require additional resources and funding to successfully implement.



**CAREER AND COLLEGE READINESS MUST BE THE STATEWIDE GOAL.** Career and college readiness (CCR) is a combination of the “right diploma, the right courses, the right test scores, and the right skills and attitudes.” ‘Career and College readiness’ means that a high school graduate is ready to pursue preparation for a highly-skilled career and is admissible to and prepared to succeed in first-year, credit-bearing classes without remediation at a 2- or 4-year college, technical or trade school, or apprenticeship program. A ‘career’ differs from a ‘job’ in that a career offers the opportunity to advance and develop professionally.<sup>30</sup> CCR must be implemented through a collaborative effort among economic development advocates, educators, parents, and the executive and legislative branches of Nevada’s government to align high school diploma requirements with college and career requirements.

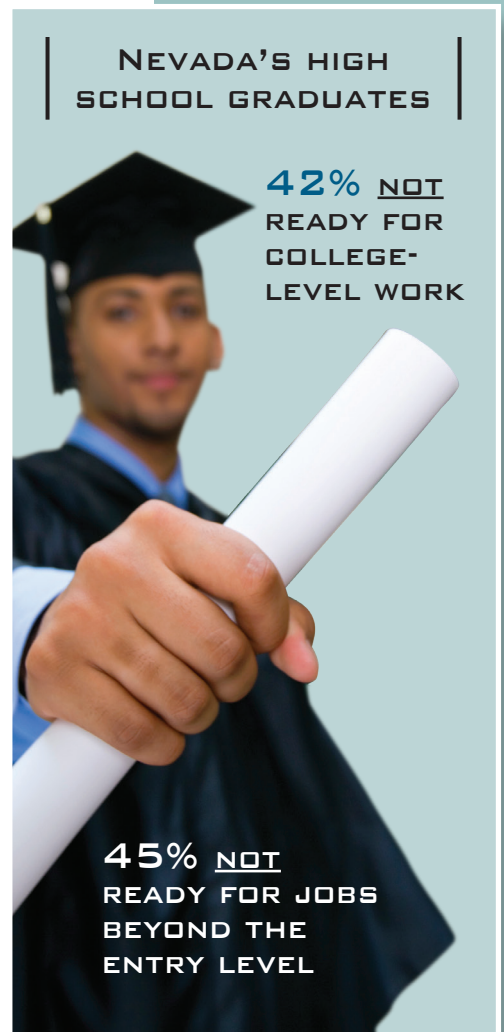
**“MY BIGGEST CONCERN FOR NEVADA AND THE ENTIRE COUNTRY IS THE DROP-OUT PROBLEM...WE NEED GREAT TEACHERS, GOOD PEDAGOGY, INTELLIGENT GOVERNANCE...”**

-Elaine Wynn, November 19, 2012  
in a comment to the Education Alliance.

But Nevada’s students are clearly not prepared for a career or for college since many do not even graduate from high school. Nevada only graduates 62% of its high school students, making the rate the lowest high school graduation rate in the nation.<sup>3</sup> This means that two out of every five students who enter high school do not graduate. Clark County has recently improved its graduation rates, from 59% to 66%.<sup>31</sup>

Further, a standard diploma does not properly prepare graduates for college or for careers requiring technical preparation. To foster career and college readiness, course requirements must be more rigorous. Counselors are using advisement tools and policies that reflect the inconsistency in expectations to prior economic employment needs, service, and construction. Providing counselors with clear CCR guidelines and aligning high school diploma requirements with entry requirements to higher education will enable counselors to provide advisement matching the needs of our economy.

Career and technical education (CTE) programs help guide students in career development to use their work-ready skills in the economy. These types of programs should be expanded in collaboration with the State’s employment and economic development needs. High school students who are enrolled in CTE courses typically perform 2% to 6% better in math, reading, and writing than students not enrolled in



CTE, likely attributed to practical applications of real-world problems. Not surprisingly, CTE students graduate in higher numbers (72% compared to 68.7% of non-CTE students in 2008), according to the Nevada Office of Career, Technical, and Adult Education's 2011 Accountability Report.

CCR is a reasonably low cost initiative, but does require training and sufficient staffing of counselors and a focus of school counseling on ensuring that all students receive the academic support they need to meet CCR guidelines. For the 2009-2010 school year, the U.S. Department of Education reported that Nevada had one counselor for every 493 students.<sup>33</sup> This is above the average U.S. ratio of 459 students to one counselor, and well above the American School Counselor Association's recommendation of 250 students to one counselor.

### STEAM EDUCATION IMPROVES COGNITIVE ABILITIES AND FUELS ECONOMIC OPPORTUNITIES.

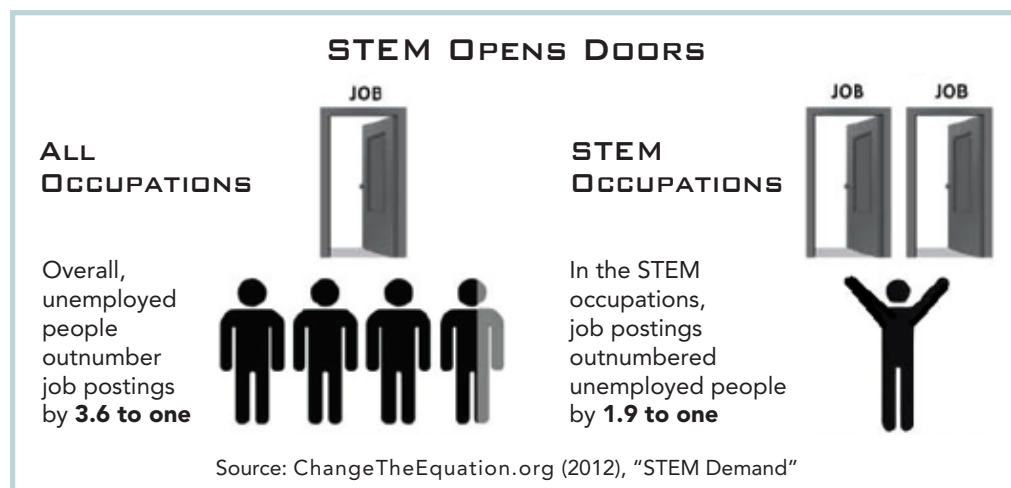
There is tangible evidence in Nevada schools that students thrive in rigorous project-based curriculum rooted in science, technology, engineering, and mathematics (STEM). Proponents of the arts, which are also shown to stimulate cognitive growth in children<sup>34</sup>, similarly advocate for an integration of the five subjects: science, technology, engineering, arts, and mathematics into what is known as STEAM.

Parents of students in earlier grades are participating in their children's education through family engagement opportunities geared to support families and their children in math and science, like MAPPS (Math and Parent Partnerships) and FLITE (Family Literacy Experience), which integrate reading with science-based projects. These programs make school interesting and relevant, and engage the family using a curriculum with real-world applications that present workplace problems which students learn to solve.

### ADVANCED TECHNOLOGIES ACADEMY IN CLARK COUNTY

This high school is proof that students thrive in rigorous coursework. Advanced Technologies Academy is a magnet high school in which students study one of eight specialized programs based on integration and the use of technologies.

The academy is ranked by U.S. News as 2nd best high school in Nevada. With over half of its student body enrolled in AP classes, the school boasts a 100% proficiency rate in writing and a 51.3 college readiness index<sup>32</sup> — which is well beyond Nevada's average. Sixty-two percent of the students are minorities, and 23% are economically disadvantaged, but with a 19:1 student/teacher ratio and a school climate endorsing AP classes and STEM education, Advanced Technologies Academy prepares its students to succeed.





STEM has begun fueling the economy in places like Utah and Silicon Valley, where the job creation numbers are up nearly 4% with largely tech-related jobs.<sup>35</sup> Utah ranked second in the nation in both export growth and rate at which new businesses are created. It also ranked in the top five in categories including long term-job growth, short-term job growth, higher-education efficiency, and STEM job growth.<sup>36</sup>

Furthermore, a STEM-educated population will have a significant advantage in the job market as STEM jobs make up 15 of the 20 fastest growing fields.<sup>37</sup> Nevada's students can be leading thinkers and innovators if we give them a chance understand the underlying theories, not only the how, but the why, things work through these intellectually stimulating programs. Forty-eight percent of Nevada students taking the EXPLORE, a test program by ACT for 8th and 9th graders to plan for high school courses or choose a career direction, indicated science, technology, and technical careers as their career and post-secondary education preference.

### | LEARNING FROM COLORADO |

Colorado has experienced an upward trend in graduation rates since implementing cost-effective dropout prevention and graduation programs. Colorado provides technical and financial assistance to qualifying schools to re-engage students at greatest risk of dropping out. The Colorado Graduation Pathways Project<sup>39</sup>:

- builds transition systems for middle school to high school and high school to post-secondary options;
- implements interventions and strategies for outreach and re-engagement;
- includes professional development for teachers;
- increases the number of school counselors in secondary schools;
- promotes career and college-going cultures in schools with the School Counselor Corps Program

**COMMON CORE STATE STANDARDS IMPLEMENTATION IS A CRITICAL CURRICULUM VEHICLE WHICH BRINGS TOGETHER K-12 EDUCATORS AND HIGHER EDUCATION PARTNERS TO STRENGTHEN THE EDUCATION PIPELINE TO NEVADA'S ECONOMY. STATE AND LOCAL LEADERS MUST RECOGNIZE THAT IF WE ARE TRULY GOING TO PROVIDE THESE MEANINGFUL PATHWAYS FOR OUR STUDENTS, STRATEGIC FINANCIAL SUPPORT MUST BE INITIATED TO SUPPORT STEAM AND OTHER KEY EDUCATION GOALS OUTLINED IN MOVING NEVADA FORWARD: A PLAN FOR EXCELLENCE IN ECONOMIC DEVELOPMENT. STRATEGIC INVESTMENT OF TIME, FINANCIAL, AND HUMAN RESOURCES IS NEEDED TO FOCUS STRENGTHENING THIS CRUCIAL NEVADA EDUCATION PIPELINE.**

# HIGHER EDUCATION

HIGHER EDUCATION IS A VITAL PIECE IN BUILDING A STRONG ECONOMY. THE NEVADA SYSTEM OF HIGHER EDUCATION PROVIDES 2-YEAR, 4-YEAR, GRADUATE, CERTIFICATE PROGRAMS AND RESEARCH ACTIVITIES THAT SUPPORT ECONOMIC DEVELOPMENT AND WORKFORCE PREPARATION FOR THE STATE. NEVADA NEEDS TO RESTORE RECENT BUDGET CUTS IN HIGHER EDUCATION TO DEVELOP A COMPETITIVE, HIGHLY SKILLED, INNOVATIVE POPULATION THAT WILL ATTRACT LARGER NUMBERS OF DIVERSE BUSINESSES AND ENHANCE NEVADA'S CURRENT INDUSTRIES.

The future workforce of Nevada will be prepared in great part by the educational institutions in Nevada. Currently, about three-fourths of new freshmen in Nevada's higher education institutions are graduates of Nevada's high schools.<sup>40</sup> In a recent study by Northeastern University, the majority of families believe it is "extremely likely" their child will attend college, and that funding cuts to public universities lower the country's standing as a global leader in higher education.<sup>41</sup>

The conclusion is that Nevada has the opportunity and the responsibility to align education programs to workforce needs and address Nevada parents' expectations for higher education for their children.

**SUCCESS IN POST-SECONDARY EDUCATION DEPENDS ON PRE-K THROUGH 12TH GRADE PREPARATION.** Unfortunately, Nevada is one of the weakest states in post-secondary degree attainment by residents.<sup>42</sup> Factors contributing to this are inadequate preparation for post-secondary education and low high school graduation rates. With more jobs requiring post-secondary credentials, fewer Nevadans will be prepared for high-skill, high-wage employers. Such a workforce does not attract businesses needing highly skilled workers to Nevada. Fortunately, Nevada is in control of many factors related to successful post-secondary degree attainment and workforce preparation.

For example, indicators of the low levels of performance can especially be found in the high need for remediation in college; however, collaboration between Nevada pre-K-12 and NSHE can alleviate these shortcomings. It is clear that students who do not take four years of math in high school or do not enroll in math

NEVADA RANKS **LAST** IN A  
9TH GRADERS CHANCE TO  
ENTER COLLEGE BY AGE 19,  
AND **LAST** FOR OVERALL  
CHANCE OF SUCCESS



beyond the Algebra 3-4 level are more likely to need remediation in college.<sup>43</sup> The same is true for English. High school students who do not enroll in Advanced Placement English are more likely to need remediation after high school.<sup>42</sup> Of the nearly 42% of Nevada students taking remedial classes at two-year institutions, only about 10% will graduate. At four-year institutions, of the 30% who take remedial classes, only slightly more than a third will graduate.<sup>39</sup> This emphasizes the importance of student preparation and funding for a pre-K-12/higher education collaboration to achieve success in higher education.



*At Least **1 in 3** Students are Enrolled in Remedial Classes*

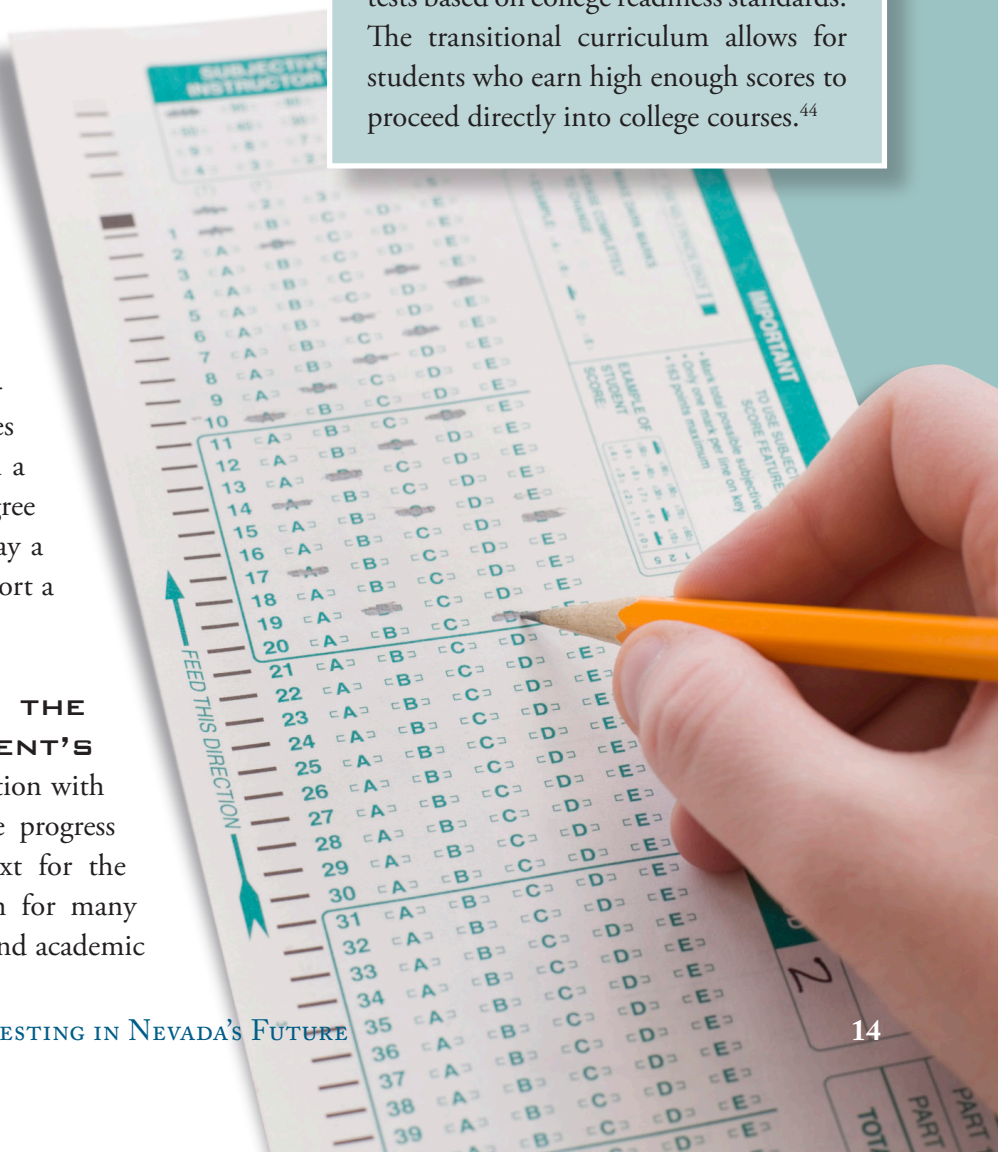
**COMMUNITY COLLEGES ARE ESSENTIAL FOR WORKFORCE PREPARATION.** While Nevada's graduation rates are lower than the national averages for public universities and for public 2-year colleges,<sup>45</sup> graduation rates at community colleges are steadily growing. In the 2010-2011 school year 4,514 degrees were awarded at Nevada's two-year institutions, a 77% increase in degrees and certificates from the previous year, and a 13% increase in Associate Degrees.<sup>46</sup> The degree programs offered at community colleges play a vital role in Nevada's economy as they support a growing number of students.

**RETENTION RELATES TO THE CULMINATION OF A STUDENT'S ACADEMIC SUCCESSES.** Graduation with a degree occurs only when students make progress and return from one semester to the next for the complete program. Students fail to return for many reasons, including financial, motivational, and academic

## CALIFORNIA LEARNS THAT ADDRESSING POOR PERFORMANCE REQUIRES FUNDING

The California State University (CSU) system added a series of college readiness questions to the State's 11th grade exam, which tells students afterward whether they are on-track for college-level courses.

CSU is also helping high school teachers work with unprepared students and craft a 12th grade transitional curriculum. Other states, like Virginia, Texas, and Florida, are also creating 12th grade transitional courses and end-of-course tests based on college readiness standards. The transitional curriculum allows for students who earn high enough scores to proceed directly into college courses.<sup>44</sup>



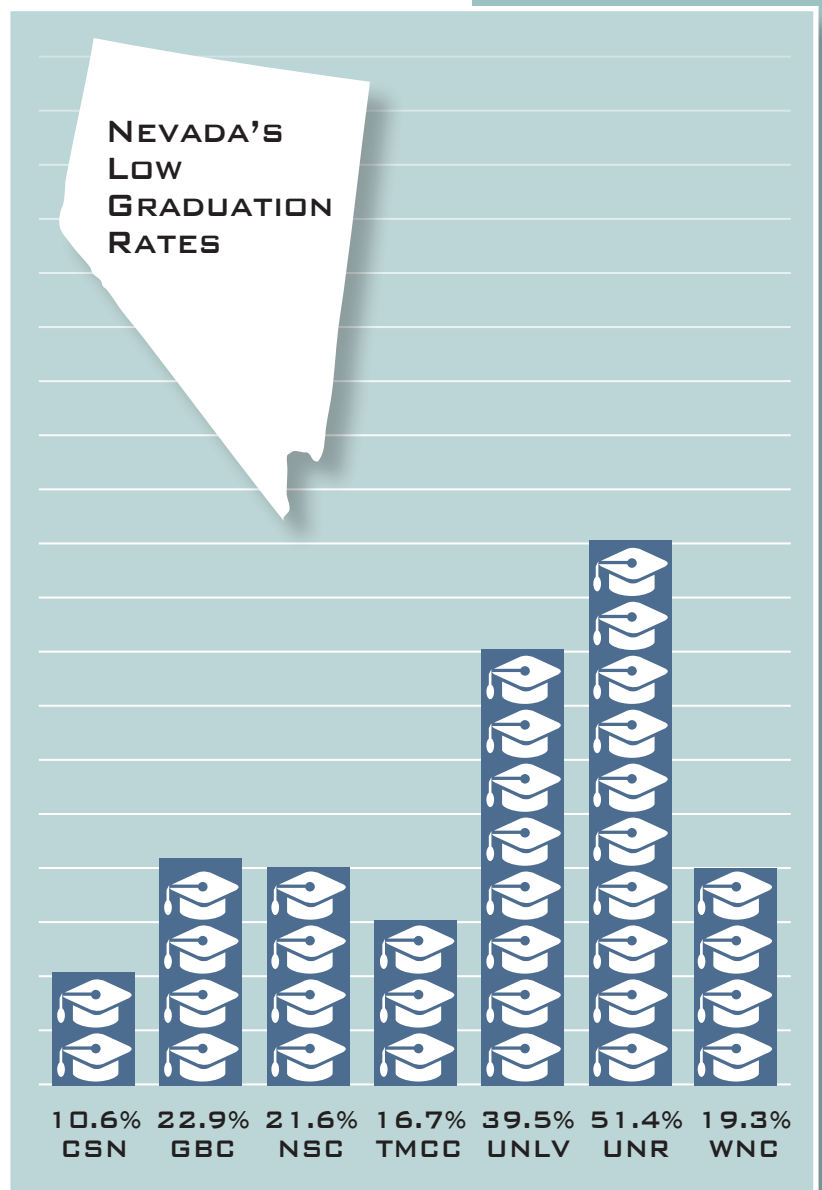


success in courses. While students can return after stopping their progress, there is much evidence that taking time out or attending part-time reduces the likelihood of ultimate completion of their degree.<sup>47</sup> First-year retention is particularly important and rates have improved across NSHE institutions. The year 2010 shows the highest retention rate for Nevada (nearly 74%), which is close to the nation's average. But for those not returning to continue their education, there is a cost to the State. Nevada students who began college but did not return for a second year cost the State \$68.4 million.<sup>48</sup> Additional support such as Millennium Scholarships and academic support services can reduce the costs associated with unsuccessful students.

#### **CUTS TO HIGHER EDUCATION IMPACT NEVADA'S ECONOMY.**

Economic and education crises have caused the United States to slip from the 1st to 12th most prosperous country in the world.<sup>49</sup> Nevada has been hit particularly hard in funding for the university and community college certificate and degree programs that are critical for meeting the workforce needs for the State's economy. The Nevada System of Higher Education's (NSHE) Economic Impact Study of 2009<sup>50</sup> measured the economic contribution of the NSHE institutions to Nevada and found the following:

- For every \$1 reduction in NSHE expenditures, total Nevada economic output is reduced by \$2.
- A one-employee reduction in NSHE would reduce Nevada employment by 1.58 jobs.
- The 2009 total economic impact of all NSHE institutions is estimated at \$2.736 billion.
- NSHE institutions are directly responsible for 15,101 jobs in Nevada.
- Combined, the NSHE institutions are Nevada's second largest employer.



University faculty and student research also stimulate output and attract business investment. According to UNLV's Center for Business and Economic Research Director Steve Brown, "Faculty... are going to relocate to another state... Research money tends to follow people, not institutions."<sup>51</sup> Brown explained common sense economics: that cuts to higher education have a negative impact on the diversification of Nevada's economy because it is closely associated with university research. In an economic study in 2009, UNLV's Center for Business and Economic Research found that \$1 of funding to NSHE produced \$2 of economic output to the state. Funds provided to leverage the research and development expertise in NSHE is a well-established strategy for enhancing economic development in areas that provide high-income jobs.

The need for post-secondary education or job training for all students after high school cannot be understated. This is becoming more urgent as the percentage of jobs for workers with a high school diploma or less continues its free fall, from 72% in 1973 to a projected 37% in 2018.<sup>37</sup> Nevada has people, including veterans, with some post-secondary education but no degree and they represent a potential source of more employees with degrees provided that reentry support services are available for them to complete workforce-related programs.

Many of Nevada's employers struggle to fill "middle-skills" jobs which require post-secondary technical education and training, such as jobs in the fields of computer technology, nursing, and manufacturing. Nevada labor is comprised of between 40 and 45% middle-skills jobs.<sup>52</sup> It is important that higher education be adequately funded to provide the necessary training and/or retraining to meet employer needs.

**IN ORDER TO ATTRACT BUSINESSES TO THE STATE, THE HIGHER EDUCATION SYSTEM MUST HAVE THE RESOURCES TO PROVIDE THE PREPARATION NEEDED FOR NEVADA'S WORKFORCE. WITHOUT INVESTMENT IN HIGHER EDUCATION, NEVADA WILL NOT BE ABLE TO OFFER THE HIGHLY SKILLED POPULATION THAT WILL ATTRACT DIVERSE BUSINESSES TO THE STATE. WITH ONE OF THE GREATEST PROJECTED GROWTHS OF HIGH SCHOOL GRADUATES IN THE NATION IN THE NEXT DECADE,<sup>53</sup> NOW IS THE TIME FOR NEVADA TO SHARPEN ITS FOCUS ON PUBLIC EDUCATION FOR ALL STUDENTS.**

## **18 YEARS OF ACCELERATED ASSOCIATE DEGREE PROGRAMS AT GREAT BASIN COLLEGE**

GBC has worked collaboratively with the regional mining industry over the past 18 years. With industry support, GBC has developed 48-week accelerated Associate degree programs in five technical areas: diesel, electrical, instrumentation and welding technology, and industrial millwright technology. Over 90% of graduates from these programs are employed within one year of completion.

"Growing our own" has become GBC's strategy to provide a trained workforce for rural Nevada in jobs for which it is otherwise difficult to recruit and retain quality professionals.

Source: Great Basin College, 2012.

# ECONOMIC FACTORS

TWO YEARS AFTER THE EDUCATION ALLIANCE'S LAST REPORT, NEVADA STILL RANKS VERY POORLY AS A PLACE TO DO BUSINESS, DESPITE NEVADA'S LONG-TIME POLICY OF MAINTAINING VERY LOW TAXES, PARTICULARLY BUSINESS TAXES, AS THE PRIMARY WAY TO ENCOURAGE ECONOMIC DEVELOPMENT. NEVADA IS RANKED HIGHLY AS A BUSINESS-FRIENDLY STATE, BUT IT LAGS OTHER STATES IN ECONOMIC DIVERSIFICATION, ACCESS TO CAPITAL, LEVEL OF SUPPORT FOR TECHNOLOGY INFRASTRUCTURE AND INNOVATION, EDUCATION PERFORMANCE, AND SCHOOL FUNDING.

The CNBC rankings provide greater detail in specific areas than other rankings. CNBC ranked the Best States for Business for 2012 using objective measurements in 10 broad categories: Cost of business; Workforce; Economy; Business Friendliness; Transportation; Technology and Innovation; Education; Access to Capital; Cost of Living; Quality of Life.

## CNBC BEST STATES FOR BUSINESS FOR 2012

	OVERALL BUSINESS RANKING	BUSINESS TAX CLIMATE	COST OF BUSINESS	WORKFORCE	EDUCATION	ACCESS TO CAPITAL	TECH & INNOVATION
TEXAS	1	9	28	7	26	8	2
UTAH	2	10	11	9	45	13	24
VIRGINIA	3	26	32	8	13	9	14
NORTH CAROLINA	4	44	21	3	13	18	9
NORTH DAKOTA	5	29	16	10	19	43	47
NEVADA	45	3	30	13	50	34	44

GREEN = TOP 33% YELLOW = MIDDLE 33% RED = BOTTOM 33%

**Cost of Business:** Tax burden, utilities, cost of wages/workers comp, office & industrial space

**Workforce:** Education level of the workforce, number of available workers, union membership, worker training programs

**Education:** Test scores, class size, spending, the number of higher education institutions

**Access to Capital:** Venture capital availability

**Tech & Innovation:** Support for innovations, patents issued to residents, deployment of broadband services



Texas, Utah, Virginia, North Carolina, North Dakota ranked as the top five in the CNBC's 2012 Best States for Business. Nevada ranked 45th. It is in the worst third for Access to Capital and Technology and Innovation. Nevada ranks last in terms of Education. It should be noted that Nevada's ranking of 13th in Workforce reflects the jobs the State currently has but not the jobs Nevada still needs to create in order to support the workforce of the future.

In its 2011 ranking of the Best States for Business, Forbes magazine factored in 33 different points of data to rank the states in six broad categories: Costs; Labor supply; Regulatory environment; Current economic climate; Growth prospects; Quality of life.

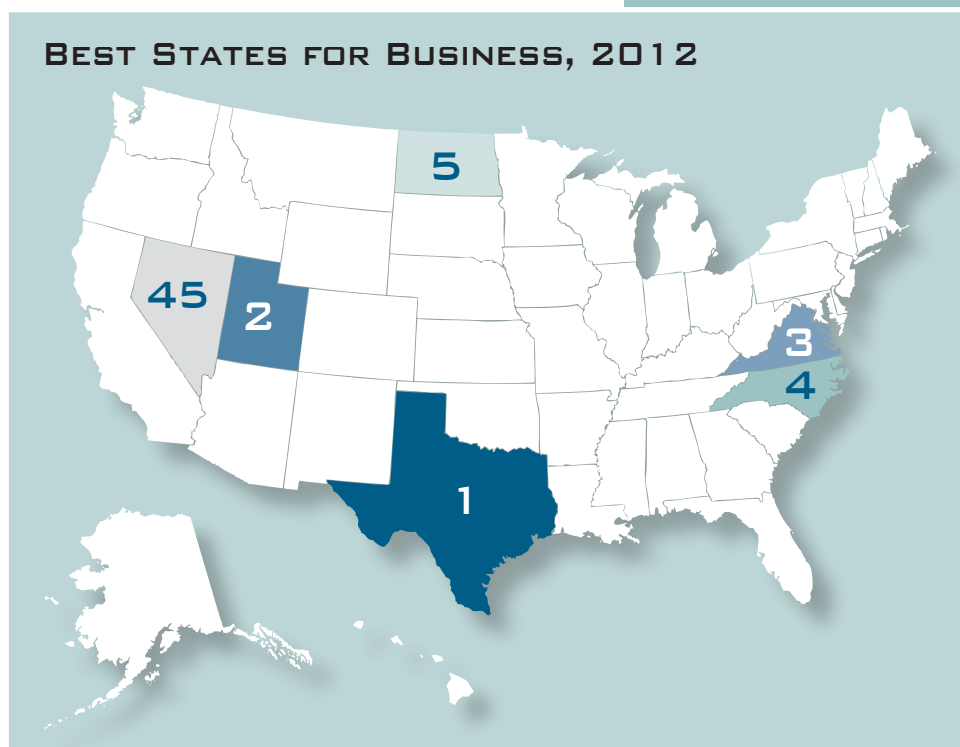
Business costs, including taxes, were weighted the most heavily. Utah, Virginia, North Carolina, North Dakota, and Colorado topped the 2011 Forbes list. Nevada ranked 36th on the Forbes list (slipping from 31st in 2009), ranked 50th in the economic climate category, and 49th in quality of life (index of schools, health, crime, cost of living, and poverty rates).

It is evident from these rankings that multiple factors affect a state's economic health and its ranking as a "best state for business." Although business costs, including business taxes, are an important consideration, the best states for business rank higher on workforce, education, access to capital, and technology.

**THE MOST IMPORTANT OF THESE FACTORS IS EDUCATION.**

According to Forbes, "A common theme with our top-ranked states is an expanding, educated workforce." Four out of five of CNBC's top states for business ranked in the top half of states in education. A skilled, educated workforce is crucial to Nevada's success in a 21st century economy.

It is projected that in 2018, 53% of all jobs in Nevada will require some post-secondary training beyond high school. This means that new jobs in Nevada requiring post-secondary education and training will grow by 218,000, while jobs for high school



*A common theme with our top-ranked states is an expanding, educated workforce.*

graduates will grow by just 123,000, and jobs for dropouts will grow by only 60,000.<sup>54</sup> Even with that growth, Nevada will rank 48th in the proportion of its 2018 jobs that will require a bachelor's degree and 3rd in jobs for high school dropouts!

#### CHANGE IN JOBS BY EDUCATION LEVEL: 2008 AND 2018.

Education level	2008 Jobs	2018 Jobs	Difference
High school dropouts	211,000	270,000	60,000
High school graduates	432,000	554,000	123,000
Postsecondary	719,000	938,000	218,000

States like Colorado and Florida have not only seen high returns on investment in education, but also perform better than Nevada in this time of economic uncertainty. The correlation between education and the economy could not be more obvious.

Until the onset of the Great Recession, Nevada was able to provide high school dropouts with livable-wage jobs, especially in the service and construction industries. The Georgetown study's projections show there will be less demand for high school dropouts relative to those with post-secondary education in the future. With the economic decline in the hospitality and construction industries and the need for an additional 218,000 individuals with post-secondary education by 2018, graduates with only a high school diploma and dropouts will find themselves largely left behind in the coming decade as the demand for workers with post-secondary degrees increases. Governor Sandoval told the Las Vegas Sun in December, 2012 that he would seek additional money for K-12 schools,<sup>55</sup> demonstrating that he too understands that Nevada will need a more educated workforce in the future.

**THE JOB MIX IS CHANGING, SO THE EDUCATED WORKFORCE MUST CHANGE IN RESPONSE. NEVADA CANNOT AFFORD TO BE A "LEADER" IN THE LOWER-PAYING JOBS FOR HIGH SCHOOL DROPOUTS—THE STATE MUST ATTRACT MORE OF THE HIGHER PAYING JOBS FOR A BETTER EDUCATED, WELL-PREPARED WORKFORCE. IT WILL TAKE A REVITALIZATION OF EDUCATION AT ALL LEVELS, FROM PRE-K THROUGH GRADE 12, FOR NEVADA TO CREATE AND SECURE A ROBUST ECONOMY.**

#### 2012 RGJ ENTREPRENEUR OF THE YEAR: MERCHANTSXL

MerchantsXL opened in Reno in early 2011. With the help of an educated and skilled team, the company helps businesses take an innovative approach to transaction-processing hardware and software. A little less than two years later, MerchantsXL has grown to having more than 200 clients, including the Chamber of Commerce, WIN, California Closets National, Artown, Junior League of Reno, Reno Bighorns, and the Reno Aces.<sup>56</sup>

MerchantsXL also gives back to the Nevada community by donating a portion of its profits to local charities. It has created a nonprofit and community benefit program with NP Catalyst specifically designed to give cost savings back to the community.

# CONCLUSION

ALTHOUGH NEVADA HAS MADE PROGRESS SINCE OUR LAST REPORT, ITS EDUCATION AND ECONOMIC PROPOSITION STILL DOES NOT COMPARE FAVORABLY TO OTHER STATES. NEVADA'S ECONOMY REMAINS IN CRISIS. THE GROWTH IN TOURISM AND CONSTRUCTION OF THE LAST 20 YEARS CREATED A BOOMING ECONOMY IN NEVADA THAT HID THE UNDERLYING ECONOMIC WEAKNESS OF OUR STATE – LACK OF ECONOMIC DIVERSITY, AND TOO FEW STABLE, WELL-PAYING INDUSTRIES. THIS SITUATION HAS RESULTED FROM OF A POORLY EDUCATED WORKFORCE NOT ATTRACTIVE TO THE VERY BUSINESSES NEEDED TO PROSPER IN THE BAD TIMES AS WELL AS THE GOOD.



## SOLUTIONS EXIST, BUT THEY ARE TOUGH AND COMPLEX.

In order to attract stable, higher-paying companies, Nevada must:

- ✓ Balance its tax burden on individuals and businesses with investment in education, the workforce, technology, and innovation;
- ✓ Continue to increase educational expectations and accountability, research and development focus, and per pupil spending; and
- ✓ Continue to reform educational policies, practices and structures.

Clearly, low taxes alone have not (and will not) resuscitate Nevada. The organizations responsible for developing a targeted, actionable, measurable vision and plan for Nevada's future economy need a comprehensive plan that balances taxes with investments in Nevada's economic future.

Nevada needs an educated, highly-skilled workforce to attract businesses to Nevada. Thus, education initiatives must continue building on previous education reforms.

### EDUCATION INITIATIVES

- Increase support for Early Care and Education programs, and fully fund an expansion of full-day Kindergarten.
- Reinstate previous cuts to fund K-12 education and increase per-pupil spending by \$2,000 to \$3,000.
- Fund the Common Core State Standards to ensure swift implementation and an emphasis on STEAM, problem-solving, and critical thinking skills which also support Career and College Readiness goals that will help students strive for greater achievement and be better equipped to enter the workforce.
- Invest in programs to increase instructional time for struggling and at-risk students.
- Align education programs to workforce needs by funding a pre-K-12/higher education collaboration, providing additional scholarship opportunities and academic support services, and providing NSHE institutions with a budget that allows for the retention of faculty who foster research and development.
- Restore higher education funding to its pre-2010 funding to develop a competitive, highly-skilled, innovative population that will attract larger numbers of diverse businesses and enhance Nevada's current industries.
- Establish and invest in initiatives to at least double the Research and Development dollars attracted by Nevada's universities.

**IN CONCLUSION, THE EDUCATION ALLIANCE APPLAUDS THE GOVERNOR'S RECOGNITION OF THE PIECES OF A STUDENT'S EDUCATION PROCESS. BUT, THE ENTIRE PATHWAY MUST BE INVESTED AND SUPPORTED. AS SUPERINTENDENT PEDRO MARTINEZ INDICATED RECENTLY, "GOV. SANDOVAL HAS HELPED LAUNCH CONVERSATIONS AT THE STATE LEVEL, AND WE ARE EAGER TO CONTINUE THOSE CONVERSATIONS WITH OUR COMMUNITY AND OUR STATE REPRESENTATIVES. WE KNOW THE PATHWAY TO COLLEGE BEGINS IN KINDERGARTEN. AS WE EDUCATE NEVADA'S FUTURE WORKFORCE, OUR PRIMARY GOAL IS TO PREPARE THEM WELL FOR COLLEGE AND THE HIGHLY-SKILLED CAREERS THAT WILL BENEFIT OUR STATE IN THE FUTURE, AND THAT JOURNEY CONTINUES EVERY DAY."**



# TERMS AND DEFINITIONS

**CCR** Career and College Readiness. Initiative aimed at advancing high school diploma requirements so that students are more prepared to enter the workforce or into a college certificate or degree program.

**CTE** Career and Technical Education. Two-year colleges offering a range of career options and programs to foster career preparation for both high school students and high school graduates.

**ECE** Early Care and Education. Refers to educational and childhood development programs from preschool through 3rd grade.

**NAEP** National Assessment of Educational Progress. Run by the National Center for Education Statistics under the U.S. Department of Education, NAEP is the only nationally representative assessment of student achievement using uniform test booklets across the country.

**NEVADA'S PROMISE** Title of Nevada's Race to the Top application, authored by the Nevada Education Reform Blue Ribbon Task Force ordered by Governor Jim Gibbons in 2010. The application was not a finalist in the federal competition for education funds. Nonetheless, *Nevada's Promise* is currently seen in the state as a "blueprint" for education reform.

**NSHE** Nevada System of Higher Education. Oversees all eight state-supported higher education institutions: University of Nevada, Reno; University of Nevada, Las Vegas; Nevada State College; College of Southern Nevada; Great Basin College; Truckee Meadows Community College; Western Nevada College; Desert Research Institute.

**PATHWAY** Pathway to College and Highly-Skilled Career Readiness. Refers to the shared definition of success identifying important milestones in a student's academic career. It is aligned with the academic, human capital, community, and operational initiatives described in the Washoe County School District's strategic plan, Envision WCSD 2015.

**PPE** Per-pupil Expenditures. Public cost of general education for each student. Public spending on education divided by the number of students by level.

**SMARTER BALANCED ASSESSMENT CONSORTIUM (SBAC)** State-led syndicate developing assessments aligned to the Common Core State Standards in English and mathematics.

**STEAM** Science, technology, engineering, arts, and mathematics.

**STEM** Science, technology, engineering, and mathematics.

# ENDNOTES

<sup>1</sup> Bureau of Labor Statistics, December 2012.

<sup>2</sup> US Census Bureau, 2010.

<sup>3</sup> US Department of Education, 2010-2011 school year.

<sup>4</sup> The Georgetown University Public Policy Institute, “Career and Technical Education: Five Ways That Pay,” September 2012.

<sup>5</sup> Alliance for Excellent Education, “Accelerating the College and Career Readiness of Nevada’s Students,” May 2011.

<sup>6</sup> Nobel Prize winning economist, Dr. James Heckman, University of Chicago, “Policies to Foster Human Capital,” 1999.

<sup>7</sup> Pew Center on the States, “Pre-K Funding Nationwide: 2005-2012” and US Census Bureau, 2010.

<sup>8</sup> National Kids Count Program, 2010.

<sup>9</sup> National Center for Education Statistics, 2011 State Snapshot Report.

<sup>10</sup> “Reading on Grade Level in Third Grade: How Is It Related to High School Performance and College Enrollment?” Lesnick, George, Smithgall, Chapin Hall at the University of Chicago and Gwynne, Consortium on Chicago School Research, 2010.

<sup>11</sup> NAEP scores have been reported on odd years since 2003, and the latest PPEs are from 2010. The states represented in the scattergram are those with similar student demographics to Nevada’s.

<sup>12</sup> An April, 2006 benefit-cost analysis, Lessons Learned: A Review of Early Childhood Development Studies, conducted by economists from the U.S. Federal Reserve Bank of Minneapolis and the University of Chicago. The study further concluded that children who are denied quality early childhood education generally never catch up in educational attainment and in overall financial stability.

<sup>13</sup> Brown and Lohrentz, et al (2011). The Economic Impact of Early Care and Education in Nevada. Insight Center for Community Economic Development and The Children’s Cabinet, 2011.

<sup>14</sup> EIECENV pg. 14.

<sup>15</sup> Peisner-Feinberg, E. S. et al. (2001). “The Relation of Preschool Child-Care Quality to Children’s Cognitive and Social Development Trajectories through Second Grade.” *Child Development*, 72 (5): 1534-1553. Quality was assessed in this study using the following criteria: classroom quality measures using the Early Childhood Environment Rating Scale (ECERS), teacher sensitivity using the Caregiver Interaction Scale (CIS), child-centered teaching style using Early Childhood Observation Form (ECOF), teacher responsiveness using Adult Involvement Scale (AIS). In addition, teacher-child relationship and child assessment measures were used. As cited in EIECENV pg. 38.

<sup>16</sup> NRS 392.040.

<sup>17</sup> Full-day kindergarten is typically 5 to 6 hours in length. Legislative Counsel Bureau. Research Brief on Full-Day Kindergarten, September 2012.

<sup>18</sup> One of Governor Sandoval’s education initiatives is “Read by Three,” outlined in his State of the State address on January 16, 2013. “Read by Three” is the expectation that Nevada students are proficient in reading by 3rd grade because their chances at academic success and graduation from high school are lessened if reading proficiency is not met.

<sup>19</sup> R.J. Coley (2002). *An Uneven Start*. Educational Testing Service, Princeton, N.J. As cited in *Kids Can’t Wait to Learn: Achieving Voluntary Preschool for All in California*, Preschool California, 2004.

<sup>20</sup> Art Rolnick and Rob Grunewald (2003). *Early Childhood Development: Economic Development with a High Public Return*. *Fedgazette*. Minneapolis, Minn., Federal Reserve Bank of Minneapolis, January 2003. Analysis was based on the High Scope Perry Preschool Project in Michigan.

<sup>21</sup> Karier, T. (2003). “Welfare Graduates: College and Financial Independence”. Levy Economics Institute of Bard College, as cited in *Grassroots to Graduation: Low-income Women Accessing Higher Education*. Boston: Wellesley College for Research on Women and Women’s Institute for Housing and Economic Development.

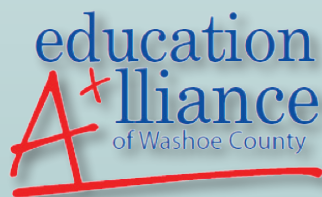
<sup>22</sup> EIECENV pg. 18.

<sup>23</sup> Nevada Legislative Counsel Bureau, September 2012.

<sup>24</sup> Gibbons, P.R. and Ladner, M. *Failure Is No Longer an Option: Florida’s Decade of Education Improvement Proves Reform Works*. Nevada Policy Research Institute, March 18, 2009.

<sup>25</sup> Johnson, J. “Florida’s education reform model can unite us.” *USA Today*. December 1, 2012.

- <sup>26</sup> Alliance for Excellent Education. Accelerating the College and Career Readiness of Nevada's Students, 2011.
- <sup>27</sup> U.S. Census Bureau
- <sup>28</sup> Benchmarks are scores on the SAT and ACT subject-area tests that represent the level of achievement required for students to have a 65% chance of obtaining a first-year GPA of B- or higher and to have a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in corresponding credit-bearing first-year college courses, respectively.
- <sup>29</sup> ACT. Developing the STEM Education Pipeline, 2006.
- <sup>30</sup> Education Alliance of Washoe County, 2012.
- <sup>31</sup> Milliard, T. (October 1, 2012). "Clark County touts high school graduation improvements." Las Vegas Review-Journal.
- <sup>32</sup> U.S. News, 2012. College Readiness is based on the percentage of 12th graders who pass AP exams.
- <sup>33</sup> U.S. Department of Education, Common Core of Data, National Institute for Educational Statistics – Public Elementary and Secondary School Student Enrollment and Staff from the Common Core of Data: School Year 2009-2010.
- <sup>34</sup> Dr. Linda Keane, Co-Director of NEXT.cc, a non-profit organization dedicated to K-12 design and environmental education, was cited in a May 2012 report titled "New Engines for Growth: Five Roles for Arts, Culture, and Design" by the National Governors Association. She argues that "the arts and design create meaningful relationships between the built and natural environments."
- <sup>35</sup> Bartels, D. "Why We Really Need Participatory STEM Education". The Huffington Post, November 14, 2012.
- <sup>36</sup> Salt Lake City Chamber. "U.S. Chamber study shows Utah economy is ready to boom". June 14, 2012.
- <sup>37</sup> U.S. Bureau of Labor Statistics, 2012.
- <sup>38</sup> Test program by ACT for 8th and 9th graders to plan for high school courses, prepare for the ACT, or choose a career direction.
- <sup>39</sup> Colorado Department of Education (CDE). Dropout Prevention and Student Engagement, 2012.
- <sup>40</sup> Nevada System of Higher Education, 2011.
- <sup>41</sup> Based on an October 2012 survey by Northeastern University which polled 1,001 American adults across the country. 80% of respondents said it was "extremely likely" their child would attend college. Two out of three Americans believe funding cuts to public universities lower the country's standing globally in higher education.
- <sup>42</sup> Rai, N. (2008). Shaping Nevada's Future: What the State Can Do to Invest in College Access and Success. A report by the Institute for Higher Education Policy.
- <sup>43</sup> Education Alliance of Washoe County. Data Profile 2011. Remediation study conducted by UNR and TMCC between the years 2002-2005 and based on first-time freshman Fall enrollment numbers.
- <sup>44</sup> Complete College America. Remediation: Higher Education's Bridge to Nowhere, 2012.
- <sup>45</sup> Nevada System of Higher Education. Graduation Rates: Percent of first-time, full-time, degree-seeking students graduating within 150% of expected time in the 2010-11 school year.
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