



# Ready to Compete?

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Ensuring Wyoming's Global Success  
Through Proven Investments in Kids

A report by:  **AMERICA'S EDGE**  
Strengthening Businesses Through Proven Investments in Kids



## Acknowledgements

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## Who We Are

The business leaders of AMERICA'S EDGE take a critical look at the knowledge, skills and abilities businesses need their employees to have in the 21<sup>st</sup> century, including the ability to be communicators, collaborators and critical thinkers. Using that analysis, we educate policy-makers and the public about high-quality, proven investments that strengthen businesses, establish a foundation for sustained economic growth, and protect America's competitive edge in a global market place, while helping our nation's children get on the right track.

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# Executive Summary

Wyoming has weathered the recent economic recession relatively well, yet the state still faces a gathering storm of potential workforce problems. Much of the state's job growth is in middle-skill positions and Science, Technology, Engineering and Math (STEM) jobs, both of which typically require education beyond high school. But Wyoming workers may not be prepared to meet the educational demands of these positions. Too few students finish high school and too many lack both the hard and soft skills required in today's global marketplace. To respond to these needs, Wyoming must invest in evidence-based programs, such as high-quality early



Monty Rakusen - Getty Images

education and models that integrate career relevant training with a rigorous academic curriculum, to help children and youth develop the skills needed for success in the workforce of the future.

## Unprepared Workers

Although businesses have always needed workers proficient in the “3 Rs” – reading, writing and arithmetic – today’s fast-paced, international marketplace requires even higher proficiency levels in these hard skills. However, they are too often lacking, especially among those entering the workforce.

- According to the Nation’s Report Card by the Department of Education, only 34 percent of Wyoming 4<sup>th</sup> graders are proficient in reading and just 37 percent of 8<sup>th</sup> graders are proficient in math.<sup>1</sup>
- Twenty-six percent of Wyoming high school freshmen do not graduate within four years.<sup>2</sup>
- Only 18 percent of Wyoming 2011 high school graduates taking the ACT college admissions test met college readiness benchmarks in all the core areas tested – English, math, reading and science.<sup>3</sup>
- Only 16 percent of employers nationwide report excellent overall workforce preparation for those with only a high school diploma.<sup>4</sup>

For American businesses, the critical “soft skills” – communication, collaboration and critical thinking – are increasingly required. In a 2010 executive survey by the American Management Association, nine out of ten executives said these soft skills are important to support business expansion, but less than half of those executives rated their employees as above average in those skills.<sup>5</sup>

## Middle-Skill Jobs - A Critical Part of the Wyoming Economy

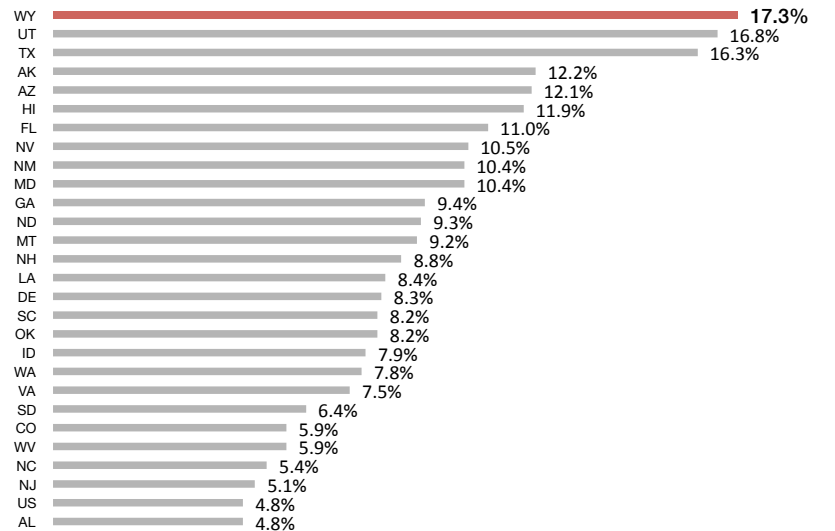
Wyoming is fortunate to have many skilled jobs that reward employees for their education and skills. This also means that

**Only 18 percent of Wyoming graduates met college readiness benchmarks in core academic areas.**

– ACT, Inc., 2011

many of the state’s jobs require higher educational levels than most Wyoming residents have attained. Middle-skill jobs – those that require less than a four-year college degree, but more than a high school diploma – account for many Wyoming jobs and are growing rapidly. Wyoming had the fastest growth in middle-skill jobs of any state in the nation between 2001 and 2010.<sup>6</sup>

### Fastest Growing States for Middle-Skill Jobs, 2001-2010



Growth in jobs for middle-skill education, including long-term on-the-job training, up to associate's degree or other postsecondary credential for states above the national average growth rate.

EMSI Complete Employment, 1st Quarter 2011

Looking ahead, middle-skill jobs will remain a critical piece of the Wyoming economy.

- By 2018, 62 percent of jobs in Wyoming will require some postsecondary education.
- By the same year, Wyoming is expected to rank second in the nation in the proportion of jobs that will require an associate's degree and fourth in the nation for jobs requiring “some college, no degree” – all middle-skill jobs.<sup>7</sup>

## Science, Technology, Engineering and Math Jobs Grow

Similarly, Science, Technology, Engineering and Math (STEM) jobs in Wyoming grew by over 25 percent between 2001 and 2010 – the second fastest growth rate of any state.<sup>8</sup> Growth will continue at a rapid pace with over 14,000 STEM jobs by 2018, up from 11,490 in 2008. This is a 24 percent increase, and well above the national average growth rate.<sup>9</sup>

These jobs require increased education and skill levels. By 2018, nine out of every ten Wyoming STEM jobs will require some post-secondary education and training and almost two thirds will require a bachelors degree or higher.<sup>10</sup>

## Meeting Wyoming's Workforce Needs through Career Academies

As Wyoming and the nation wrestle with the vitally important debate on education reform, businesses know that career relevance must be incorporated into the classroom. School is often boring. Too many students do not understand why they need to know what they are being taught, lose interest in school and then do not develop the skills employers expect of them. High school students will soon be the new entrants to our workforce, and we must ensure they are prepared. Career Academies help students stay engaged in school and graduate with a real understanding of what they will need to succeed in college and on the job, thus better ensuring Wyoming business leaders will have a work force armed with the necessary skills to survive in a global marketplace.

The Career Academies approach integrates rigorous academics, relevant career-technical education and real-world work-based learning experiences supported by industry and community partners over a three- or four-year period. Career Academies students opt-in to industry-themed academies in a wide range of fields, such as engineering, arts and media, biomedicine and health. These academies prepare high school students for future careers and a full range of postsecondary options, including two- or four-year college, an apprenticeship, the military or formal employment training.

Career Academies have proven results for producing higher earnings, which are tied to productivity. Both increased productivity and higher earnings are good for the economy:

**Career Academies students were twice as likely as nonparticipants to be working in the computer, engineering or media technology sector eight years after graduation.**

— Kemple & Wilner, 2008

increased productivity spurs economic growth, and higher earnings increase spending power and contributions to the tax base. A national study showed that:

- Career Academies students were twice as likely as nonparticipants to be working in the computer, engineering or media technology sector eight years after graduation, thus helping to increase the supply of STEM workers.<sup>11</sup>
- High-risk Career Academies students were 50 percent more likely to complete a core academic curriculum than similar students left out.<sup>12</sup> Completing a core curriculum may better prepare students for college or the workforce
- Young people from the program worked 12 percent more hours per week than those who did not participate.
- The young men and women who went through Career Academies earned 11 percent more than those not in the program. Year after year, that adds up.<sup>13</sup>

### Wyoming Career Academies

Wyoming has recently begun investing in Career Academies. A statewide Career Academy conference was held in March 2010 and the Wyoming Department of Education funded three Demonstration Site Grants to help establish the first Wyoming Career Academies.

The demonstration grant helped fund the Rock Springs Health Occupations Career Academy. This Academy works with Western Wyoming Community College and Memorial Hospital of Sweetwater to develop courses in nutrition, anatomy & physiology, medical terminology, exercise physiology, technical writing and phlebotomy with a goal of concurrent credit. Students have the opportunity to earn industry-recognized certificates in CPR, First Aid, Certified Nursing Assistant and Phlebotomy.<sup>14</sup> Wyoming expects a shortage of nurses, so this is a strategic workforce approach.<sup>15</sup> Other demonstration projects included the Architecture and Construction Academy at Sheridan High School and Sheridan College and the Manufacturing Cluster at Big Piney High School and Western Wyoming Community College.<sup>16</sup>



Photo courtesy of Career Academies Support Network, 2012

Other Career Academies have also been established. For example, Campbell County High School students in Gillette can participate in the:

- Energy Academy;
- Transportation Academy; or
- Hospitality and Tourism Academy.

Students can also earn college credit from Gillette College / Sheridan College for concurrent enrollment classes.<sup>17</sup>

But too few Wyoming students have the opportunity to benefit from Career Academies.

## Meeting Wyoming's Workforce Needs through Early Education

The state also needs a long-term strategy to deal with these increased education demands. To guarantee a deep pool of the skilled workers businesses increasingly need in a fast-changing global economy, Wyoming should heavily invest in its youngest citizens. If it acts now to create the foundations upon which skills are built – early literacy, early math and social skills – Wyoming can meet its education goals and ensure its future workers are ready for the innovative jobs of the future. Wyoming's businesses, however, will not have to wait 20 years to see the benefits of early learning. Surprisingly, investments in quality early learning provide a big boost to Wyoming businesses and the state's economy today.

### Short-Term Benefits

Business leaders recognize that the keys to the state's continued economic growth are a skilled workforce and generating additional sales of local goods and services. Investments in early learning provide a significant, immediate economic boost for local businesses and help build stronger communities.

For every dollar invested in early care and education, a total of \$1.50 to \$2 in new spending is generated in the state. This strong economic boost for local businesses is typically as high or higher than investments in other sectors such as retail trade, transportation, construction and manufacturing.<sup>18</sup>

Businesses often struggle to attract qualified applicants to fill skilled positions, lowering productivity and delaying expansion. Early education can help. Like strong K-12 education systems, quality early education for our youngest children can also help attract skilled workers and new businesses.

Investments in early education also save businesses money every day through reduced absenteeism and turnover. The average working parent in America misses five to nine days of work per year because of child care problems. This costs business owners

\$3 billion a year.<sup>19</sup> Research confirms that if parents have quality early care and education available in their communities, not only will absenteeism and turnover go down, but productivity will also go up – immediately improving businesses' bottom lines.<sup>20</sup>

### Long-Term Benefits – Skills, Education and Productivity

Early education's benefits last far beyond this initial spending boost. The foundations upon which all future learning will be based – including the foundations for the increasingly important soft skills – are built in children's earliest years. Children must be prepared to enter kindergarten ready to learn, so they can succeed in school and ultimately graduate fully positioned to go on to further training or higher education and to develop the skill set Wyoming employers require.

Without access to high-quality early learning, many children, particularly at-risk children, may be in poor-quality child care that research shows can actually be damaging to children's development.<sup>21</sup> Only high-quality programs give disadvantaged children the solid foundation they need to succeed. Research shows that high-quality early education programs help children begin developing critical literacy and math skills. For example, a rigorous study of Tennessee's pre-kindergarten program found that overall gains for children who attended were 50 percent greater than for those who did not attend pre-kindergarten. In oral comprehension and picture vocabulary, the building blocks for early literacy, participants made twice the gains of those students who were randomly assigned to a wait list.<sup>22</sup>

High-quality early learning not only helps children develop a foundation for reading and math, it also can help them develop the soft skills needed throughout their careers, like communication, collaboration and critical thinking. Children participating in Oklahoma's pre-kindergarten program, for instance, were more able to pay attention and were less timid in kindergarten than comparable children not in the program.<sup>23</sup> These are important precursors to creating a workforce able to follow directions and collaborate with colleagues.

Results from longer-running programs show that the benefits continue as students progress through school. Chicago's Child-Parent Centers have served over 100,000 3- and 4-year-olds since 1967. Researchers found that children attending Child-Parent Centers were 40 percent less likely to need special education or be held back a grade than those children who did not attend. They were also 15 percent less likely to drop out of school.<sup>24</sup> Similarly, children who attended the model High/Scope Perry Preschool Program in Ypsilanti, Michigan were 44 percent more likely to graduate from high school.<sup>25</sup>

### Early Learning in Wyoming

Unfortunately, there is no state funding for pre-k in Wyoming. The state relies solely on federal funding to support Head Start programs. Approximately 18 percent of Wyoming 3-year-olds and 26 percent of 4-year-olds are served by Head Start or pre-kindergarten special education. The other three-quarters of Wyoming's young children may not have access to a high-quality early education program.

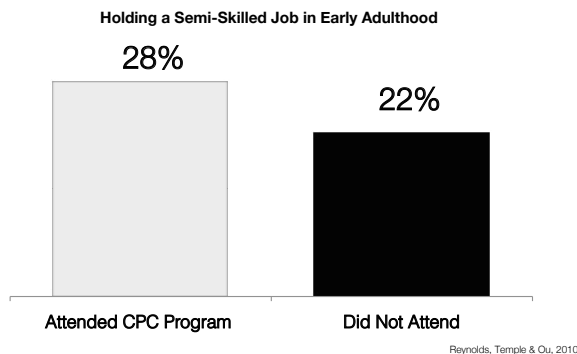


Higher academic skill levels and more developed soft skills mean more productive adults who can earn more throughout their lives. Enhanced skills and increased productivity can also be tied directly to early learning.

- Children who participated in the Child-Parent Center program were 31 percent more likely than their non-participating peers to hold a job considered semi-skilled or higher.<sup>26</sup>

### High-Quality Early Education Improves Skills

Children who attended the Chicago Child-Parent Centers were 31 percent more likely to hold a semi-skilled or higher job than children randomly assigned to a control group.



- The children who attended the Perry Preschool program were 22 percent more likely to be employed at age 40.<sup>27</sup>
- Children who participated in the Perry Preschool earned 36 percent more at age 40 than children left out of the program. This produced a range of meaningful impacts on their lives. For example, at age 40, 80 percent of the males who attended Perry owned their own car compared to just 50 percent for the males left out of the program.<sup>28</sup>
- Children in the Carolina Abecedarian program were four times more likely to have enrolled in a four-year college or university by age 30 than children left out of the program – which is good news for businesses and the economy.<sup>29</sup>

As our economy continues to strengthen and grow, increasing the education levels of our young people will help us successfully compete in a global economy. The first step toward that goal is quality early learning.

## Conclusion

Wyoming's job growth in STEM and middle-skill jobs positions it well for the future. But the state must actively prepare its current and future workforce for these jobs. The state should continue to expand the Career Academies model to prepare high school students for fields that are growing and need skilled workers. Similarly, the state must take a long-term approach and ensure

the state's youngest learners have access to high-quality early education that will help them develop critical literacy, math and social skills. In the meantime, these students' parents may be more able to join the workforce if their children have access to high-quality early care and education. By investing in the future workforce now, Wyoming can ensure it remains competitive and ready for the changing and growing economy.

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