



## State Snapshot

Education is a critical part of Washington's infrastructure that sustains and supports economic growth. Education and training at all levels is needed to build a workforce pipeline filled with skilled and talented individuals. The Education cluster is somewhat different from the rest of the clusters in that it is highlighted in public policy discussions, but is rarely discussed in the economic sense. This is interesting given that the cluster ranked 4<sup>th</sup> in employment out of the 21 major industry clusters in the state in 2007.<sup>1</sup>

Washington is home to 1,483 public elementary schools, 632 public middle schools, and 764 public high schools.<sup>2</sup> In 2008-2009, over one million students were enrolled in public K-12 schools versus 85,000 enrolled in private schools.<sup>3</sup> Over 100,000 students attend public four year colleges and universities; over 187,600 students attend public community and technical colleges.<sup>4</sup>

Collectively, educational institutions are one of the largest employers in Washington, employing nearly 71,000 workers as of April 2009.<sup>5</sup> The majority of employees are public employees. About  $\frac{3}{4}$  of elementary, middle, and secondary schools are public schools. The majority of post-secondary training institutions are also public.<sup>6</sup>

Overall, about 45% of those employed by this cluster are teachers. The Education cluster is often viewed as one lacking competitive wages. Prior to the new millennium, it was true that wage growth in Education was not as robust as the all-industries average. However, since 2002, wage growth has caught up to other clusters. The average wage for teachers across Washington is more than \$52,000 per year. Wages increase further as teachers receive additional education and as they move from teaching elementary, middle, or secondary education to post-secondary education.<sup>7</sup>

For a cluster to be successful and beneficial it needs to cultivate the unique resources of a region, have critical mass and talented people, and focus on building a leading industry that sets a region apart from other regions.<sup>8</sup> With this in mind, it is clear that the Education cluster in Washington is indeed critical to economic growth and is deserving of attention in that light.

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<sup>1</sup> (Lockhart & Wallace, 2007): <http://www.workforceexplorer.com/article.asp?articleId=8089&PAGEID=&SUBID=>

<sup>2</sup> (Public School Review, 2009): <http://www.publicschoolreview.com/>

<sup>3</sup> (State of Washington Office of the Superintendent of Public Instruction, 2009): <http://www.k12.wa.us/DataAdmin/default.aspx>

<sup>4</sup> (Washington State Office of Financial Management, 2007): <http://www.ofm.wa.gov/databook/default.asp>

<sup>5</sup> (EMSI Complete Employment, 2010): Not accessible without paid subscription

<sup>6</sup> (Western Washington University College of Business and Economics, 2005): <http://www.cbe.wvu.edu/cebr/education.pdf>

<sup>7</sup> (Washington Education Association, 2009):

<http://www.washingtonea.org/content/docs/comm/statistics/averagesalaryrank.pdf>

<sup>8</sup> (Power, 2006)

## Snohomish County Snapshot

### Education Defined

The North American Industrial Classification System (NAICS) is the current industry classification standard in the United States. NAICS breaks Education into subsectors according to level and type of education. Elementary and secondary schools, junior colleges and colleges, university, and professional schools correspond to a recognized series of formal levels of education designated by diplomas, associate degrees (including equivalent certificates), and degrees. The remaining industry groups are based more on the type of instruction or training offered and the levels are not always formally defined. The establishments are often highly specialized, many offering instruction in the very limited subject matter.<sup>9</sup> The table below depicts 2007 NAICS codes for the Education cluster.<sup>10</sup>

NAICS Code	Industry Title
6111	Elementary and secondary schools
6112	Junior colleges
6113	Community colleges, colleges, universities, and professional schools
6114	Business schools and computer and management training
6115	Technical and trade schools (cosmetology, barber, flight training, apprenticeship training, other)
6116	Other schools and instruction (fine arts, sports and recreation, language, exam preparation, automobile driving, other)
6117	Education support services (college selection, educational testing, student exchange programs, testing services)

### Employment in Education

The number of workers in Snohomish County's Education cluster totaled over 3,000 as of April 2010; employment within the cluster increased over 27% and 4% over 2009. Most employees in Education work as K-12 teachers and instructors for colleges, universities, or professional schools.<sup>11</sup> The top 20 occupations in the Education cluster are listed in the table below.<sup>12</sup>

SOC Code	Occupation Title	Jobs	% of Industry
25-1099	Postsecondary teachers	272	9%
25-2021	Elementary school teachers, except special education	253	8%
25-3099	Teachers and instructors, all other	252	8%
25-9041	Teacher assistants	212	7%
25-3021	Self-enrichment education teachers	176	6%

<sup>9</sup> (U.S. Census Bureau, 2007)

<sup>10</sup> (North American Industry Classification System, 2007): <http://www.census.gov/epcd/www/naics.html>

<sup>11</sup> (EMSI Complete Employment, 2009): Not accessible without paid subscription

<sup>12</sup> (Snohomish County Workforce Development Area, 2007): <http://www.wilma.org/wdclists/wdaArea.asp?area=000004>

25-3011	Adult literacy, remedial education, GED teachers	170	6%
25-2031	Secondary school teachers, except special and vocational	155	5%
25-2022	Middle school teachers, except special and vocational	126	4%
43-9061	Office clerks, general	73	2%
37-2011	Janitors and cleaners, except maids and housekeeping	71	2%
43-6014	Secretaries, except legal, medical, and executive	53	2%
27-2022	Coaches and scouts	112	1%
11-9032	Education administrators, elementary and secondary	45	1%
<b>53-3022</b>	Bus Drivers	44	1%
43-6011	Executive secretaries and administrative assistants	35	1%
21-1012	Educational, vocational, and school counselors	33	1%
35-3021	Combined food preparation and serving workers, including fast food	33	1%
39-9011	Child care workers	32	1%
25-2041	Special education teachers, preschool, kindergarten, and elementary school	30	1%
11-9033	Education administrators, postsecondary	29	1%

Five of Snohomish County's top 13 public employers are in the Education cluster: Edmonds School District, Edmonds Community College, Everett Public Schools, Everett Community College, and Marysville School District.<sup>13</sup> The majority of Education employees work full-time with only 30% working part-time. Bus drivers and teacher assistants (paraprofessionals) are hired in part-time positions with greater frequency compared to other occupations. Education administrators are least likely to be hired part-time. About ten percent of Education employees are temporary workers; temporary positions are most often for middle school teachers, postsecondary and college teachers, and teacher assistants.<sup>14</sup>

Education institutions often—50% of the time—recruit candidates from outside of the company to fill positions; the other half of the time they promote from within. While most educational institutions hire candidates from within the state, 17% frequently recruit from outside the state and 8% always do. Likewise, while 45% of hires are candidates from within the Puget Sound region, 54% of hires are individuals who do not live in the Puget Sound region. In 2004, less than 10% of employees were hired using H-1B Visas.<sup>15</sup>

The demand for qualified educators far outweighs the current supply. Forecasts project hundreds of openings annually from 2009-2014. Additionally, 34% of teachers are eligible to retire soon.<sup>16</sup> The

<sup>13</sup> (Workforce Development Council Snohomish County, 2008): Print report available from WDC

<sup>14</sup> (Godbe Research, 2004): Print report available from WDC

<sup>15</sup> (Godbe Research, 2004): Print report available from WDC

<sup>16</sup> (Washington Education Association, 2009):

[http://www.washingtonea.org/static\\_content/news/StatsJan09/Chart24\\_RetirementProjections.pdf](http://www.washingtonea.org/static_content/news/StatsJan09/Chart24_RetirementProjections.pdf)

shortage of qualified teachers has resulted in industry competition, with schools luring teachers from other states. Specialized career and technical education programs are especially affected by the workforce shortage. Many Snohomish County school districts have undertaken nationwide searches only to lose applicants to other states that provide incentives or higher pay. In addition, because of the strength of the economy within Snohomish County, many teachers of specialized technical training programs find employment in private industries with higher salaries and better benefits. Now is a prime time for individuals to embark on a teaching career and, with the right qualifications, enter into a high demand occupation in this growing cluster.<sup>17</sup> Specifically, the current employment focus in the Education cluster is attracting more math and science teachers. New, rigorous math and science graduation requirements require more math and science teachers, but many districts report difficulty filling these positions because of few qualified candidates.<sup>18</sup>

### Education Spending and Activity

Snohomish County is home to 136 public elementary schools, 60 public middle schools, and 65 public high schools. Over 55,500 students are enrolled in public elementary schools, over 29,300 students are enrolled in public middle schools, and over 35,500 students are enrolled in public high schools.<sup>19</sup> An additional 6,000+ students are enrolled in private schools.<sup>20</sup>

Though employment within Education remains stable, and student enrollment is expected to increase by more than 6,500 students in 2009-2010, spending and activity is decreasing as a result of budget shortfalls as the state level.<sup>21</sup> At \$8,208 in 2007, Washington ranked 45 out of 50 nationally in spending per student.<sup>22</sup> Among other things, proposed budget cuts totaling \$400 million would substantially decrease this figure, suspend money for all-day kindergarten in high poverty areas, suspend the state program for gifted education, eliminate extra funding for a program that reduces class sizes in early grades, cut back on teacher-coaching programs, and decrease the availability of after-school homework clubs and other programs.<sup>23</sup>

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<sup>17</sup> (Workforce Development Council Snohomish County, 2008): Print report available from WDC

<sup>18</sup> (Washington Learns, 2006): <http://www.washingtonlearns.wa.gov/report/FinalReport.pdf>

<sup>19</sup> (Public School Review, 2009): <http://www.publicschoolreview.com/>

<sup>20</sup> (Washington State Office of Financial Management, 2007): <http://www.ofm.wa.gov/databook/default.asp>

<sup>21</sup> (Washington Education Association, 2010):

<http://www.washingtonea.org/content/docs/comm/statistics/budgetcutsreduceemployees.pdf>

<sup>22</sup> (Washington Education Association, 2010): <http://www.washingtonea.org/content/docs/comm/statistics/perpupil.pdf>

<sup>23</sup> (Stevick, Snohomish County schools face a scary 2010, 2009):

<http://www.heraldnet.com/article/20091221/NEWS01/712219879/1034/COMM05>

## Snohomish County Outlook

### Education Forecast

Data forecasts high growth in the number of workers in Education industries in the next five years, as shown in the table below. Three industries show minimal decline while others show considerable growth.<sup>24</sup> It is important to note that one year projections in Education reveal a different scenario than projections five years from now. Employment in the Education cluster is expected to drop over the next year. Schools will have fewer teachers, classrooms will be more crowded, and courses will be dropped. Statewide, more than 3,000 teachers could lose their jobs with thousands of other positions, from aides to administrators, also in jeopardy.<sup>25</sup> Despite this short-term outlook, long-term projections remain strong due to the fact that the Education cluster rebounds along with the economy.

NAICS Code	Industry Title	2010 Jobs	2015 Jobs	% Change	Earnings Per Worker
6111	Elementary and secondary schools	804	874	9%	\$25,103
6112	Junior colleges	94	89	(-5%)	\$38,365
6113	Community colleges, colleges, universities, and professional schools	235	207	(-12%)	\$22,702
6114	Business schools and computer and management training	144	118	(-18%)	\$46,808
6115	Technical and trade schools (cosmetology, barber, flight training, apprenticeship training, other)	412	463	12%	\$30,798
6116	Other schools and instruction (fine arts, sports and recreation, language, exam preparation, automobile driving, other)	1,239	1,459	18%	\$12,316
6117	Education support services (college selection, educational testing, student exchange programs, testing services)	161	195	21%	\$40,415
		<b>3,089</b>	<b>3,405</b>	<b>10%</b>	<b>\$23,347</b>

In the table above, earnings per worker take into account all staff at schools and training facilities. As stated in the introduction, teachers in Washington earn, on average, \$52,000. At first glance it would appear as though the table above contradicts this data, as it shows elementary and secondary school employees earning, on average, \$25,103. However, earnings per worker is not the same as earnings per teacher. New teachers in Snohomish County start at upwards of \$32,000 and earn upwards of \$60,000

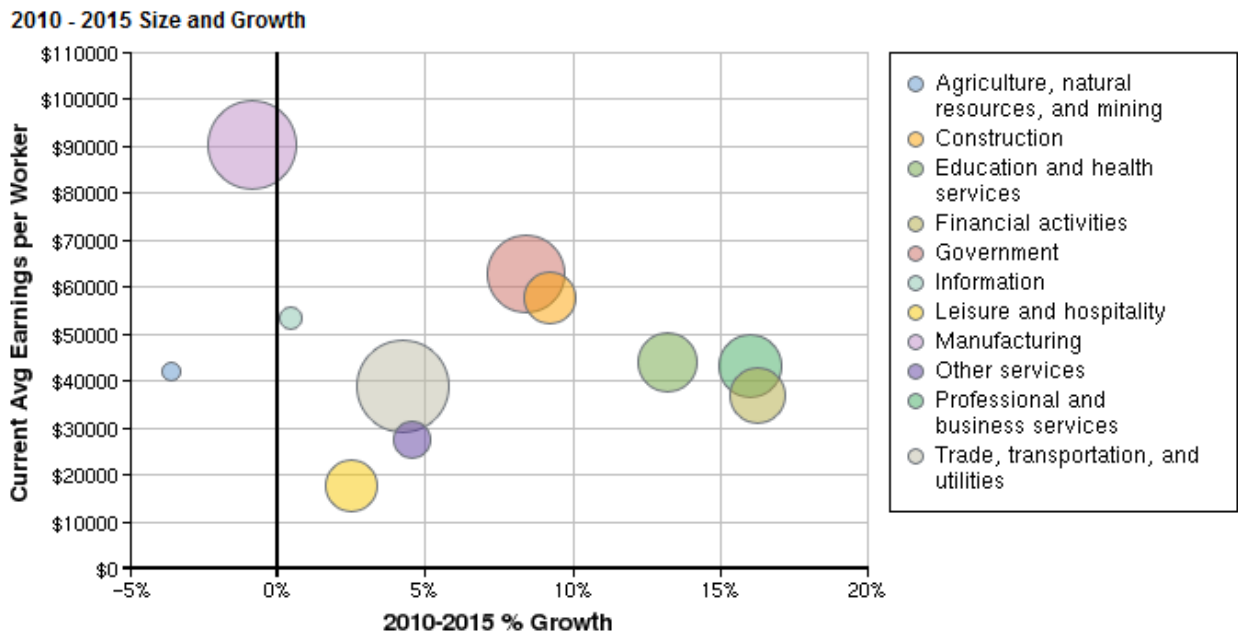
<sup>24</sup> (EMSI Complete Employment, 2010): Not accessible without paid subscription

<sup>25</sup> (Stevick & Manry, Schools Warn of Layoffs, 2009): <http://www.heraldnet.com/article/20090404/NEWS01/704049931>

with additional education and experience. The same applies for educational staff associates such as counselors and therapists.<sup>26</sup>

As baby boomers retire and their grandchildren enter schools in record numbers, it is critical that individuals are attracted to the Education cluster by compelling wages and benefits. There is discussion about how to create economic incentives to recruit and retain a new generation of capable, qualified, and committed teachers for every school. Options include premium pay for working in disadvantaged schools, higher pay in certain specialties, and performance bonuses.<sup>27</sup>

The figure below indicates that Education (green) shows one of the highest growth rates and moderate Earnings per Worker compared to other clusters in Snohomish County.<sup>28</sup>



### Training and Educational Needs

In 2006, to address the urgent need for qualified teachers and educators, Washington State Governor Chris Gregoire's Global Competitiveness Council offered recommendations for improving the educational landscape as it pertains to the workforce. Short-term recommendations included: 1) strengthen teacher preparation programs; 2) develop strategies to recruit teachers in high-need subjects and regions; 3) retain quality teachers; 4) create financial incentives for students, faculty, and institutions to focus on key

<sup>26</sup> (Washington Education Association, 2010): [http://www.washingtonea.org/static\\_content/news/0809stats/chartone.pdf](http://www.washingtonea.org/static_content/news/0809stats/chartone.pdf)

<sup>27</sup> (Mishel, Allegretto, & Corcoran, 2008):

[http://www.epi.org/content.cfm/webfeatures\\_viewpoints\\_teaching\\_penalty\\_20080430](http://www.epi.org/content.cfm/webfeatures_viewpoints_teaching_penalty_20080430)

<sup>28</sup> (EMSI Complete Employment, 2010): Not accessible without paid subscription

disciplines necessary for economic growth; and 5) support and promote the continuation and development of courses and curriculum that provide applied skills and meet rigorous standards.<sup>29</sup>

The state is offering opportunities and creating systems in which teachers can continually improve their skills so that, once in the Education career pipeline, they can climb the Education career tree and move into higher wage positions. In early 2007, the Washington Legislature approved two years of funding for planning and piloting a Washington State Leadership Academy; private support was secured in October 2007 through a three-year grant from The Bill and Melinda Gates Foundation. The Leadership Academy is a partnership between the Washington Association of School Administrators and the Association of Washington School Principals. The Leadership Academy engages school and district administration in transformative leadership practices, builds and supports strong teams to solve complex issues related to teaching and learning, heightens education leaders' ability to lead high performing organizations, and helps individuals and teams implement leader behaviors that will lead to more effective systems. Leadership Academy participants find the professional development opportunity to be extremely beneficial and worthwhile.<sup>30</sup>

An issue receiving much attention over the past few years is the need for students to meet greater skills standards in math and science. Teenagers have less mastery of math and science than peers in many industrialized nations.<sup>31</sup> In response to this issue, the State Board of Education added one more year of math as a requirement to earn a high school diploma. Students who entered the eighth grade in 2008 will be the first class to need to pass three years of math in order to graduate. For most students, this will mean taking Algebra II, though it will be up to each school to determine what qualifies as a third math credit and what does not. Increasingly, career and technical education courses, such as accounting, diesel mechanics, and electronics, are being modified to include math that would meet the requirement. To help students prepare for more math in high school, elementary and middle schools in Marysville are raising math expectations. For example, more eighth graders are being encouraged to take algebra.<sup>32</sup>

Teaching future teachers how to make math engaging is as critical as creating curriculum to help students excel in the subject. In response to a statewide initiative to increase the amount of math education majors must take to earn a teaching degree, Edmonds Community College created a new class for future teachers. The emphasis is on activities that help students visualize math concepts and stay engaged. The objective of the course is to teach teachers how to make math more interesting and applicable.<sup>33</sup>

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<sup>29</sup> (Washington State Office of the Governor, 2006): <http://www.governor.wa.gov/priorities/economy/council/finalreport.pdf>

<sup>30</sup> (Washington State Leadership Academy, 2009): <http://www.waleadershipacademy.org/index.html>

<sup>31</sup> (The Washington Post, 2007): <http://heraldnet.com/article/20071205/NEWS02/712050068&SearchID=73316439941920>

<sup>32</sup> (Manry, 2008): Link not available

<sup>33</sup> (Thompson, 2007): [http://seattletimes.nwsources.com/cgi-bin/PrintStory.pl?document\\_id=2004080940&zsection\\_id=2003749379&slug=math19n&date=20071219](http://seattletimes.nwsources.com/cgi-bin/PrintStory.pl?document_id=2004080940&zsection_id=2003749379&slug=math19n&date=20071219)

In addition to a shortage of math and science teachers, there is also a shortage of bilingual teachers. In 2005, the federal government required that English Language Learners (ELL) be tested not only in speaking in listening, but also in reading and writing. With more than 53 languages spoken in Snohomish County public schools, the legislation created a need for teachers to give foreign-speaking students a more intensive start in English. School districts hope to recruit bilingual teachers and provide current teachers with training that draws on the best bilingual practices around the country. Several models of training are being explored with the goal of offering children of immigrant families the tools they need to succeed in school.<sup>34</sup>

When considering applicants, interpersonal and communication skills were most often mentioned by educational institutions as the most important skills. Technical competence specific to the position is also critical, and the area in which the current workforce is most deficient. Since over a third of organizations in this cluster report that technical competence is important when making hiring decisions, addressing the perceived skill deficiencies of incoming teachers may become a priority in Snohomish County.<sup>35</sup>

The Education Career Tree, below, depicts experience required and potential earnings for occupations within this cluster.<sup>36</sup>

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<sup>34</sup> (Thompson, All Kids Part of this Bilingual Program, 2008):

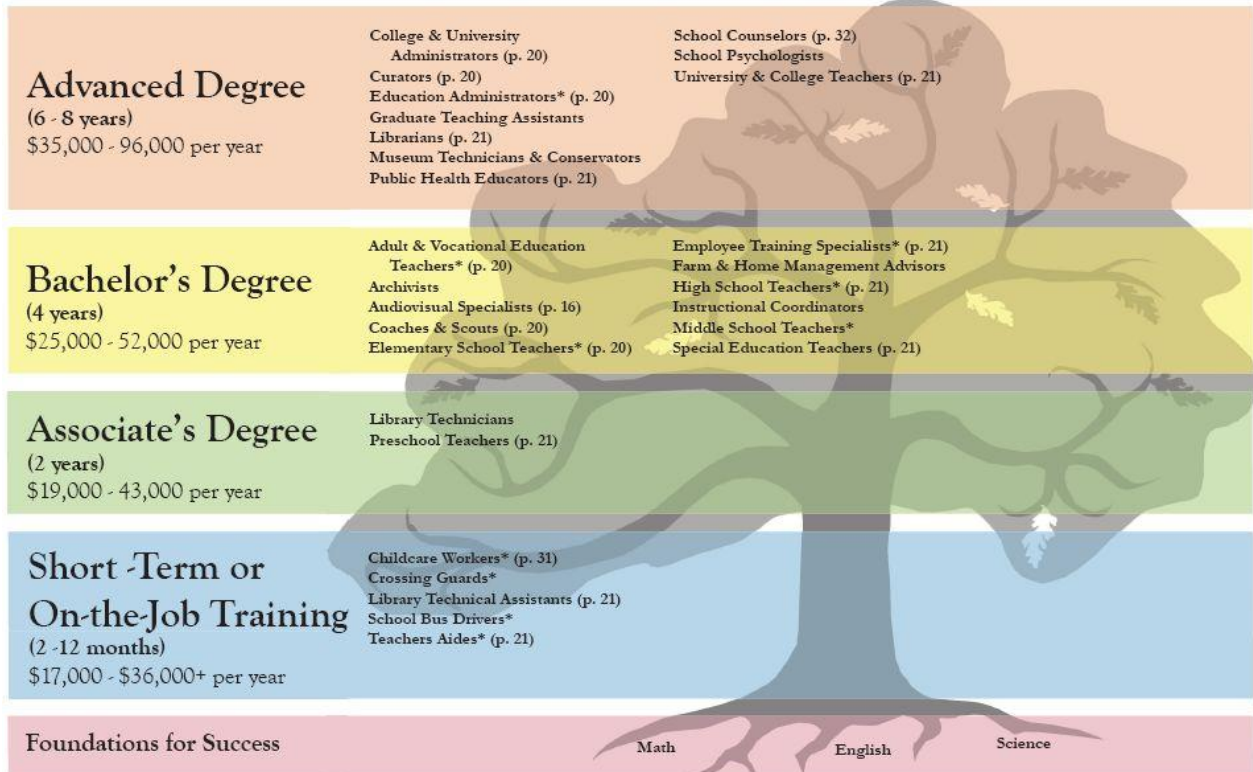
[http://seattletimes.nwsource.com/html/snohomishcountynews/2004178645\\_ell13n.html](http://seattletimes.nwsource.com/html/snohomishcountynews/2004178645_ell13n.html)

<sup>35</sup> (Godbe Research, 2004): Print report available from WDC

<sup>36</sup> (Workforce Development Council Snohomish County, 2007):

[http://careertrees.org/history/documents/originalcareertrees\\_000.pdf](http://careertrees.org/history/documents/originalcareertrees_000.pdf)

# Education



## Innovation and Entrepreneurship in Education

More so than ever before, innovations in the Education cluster include integrating new technologies into instruction. Classroom teachers must know how to integrate technology into teaching and learning. K-12 students are now constructing websites and blogs, publishing newsletters using desktop publishing software, and composing music for multiple instruments using music composition software. The Washington Office of Superintendent of Public Instruction recently awarded \$873,000 in grants for 97 teachers across the state to be trained as technology integrators and peer coaches.<sup>37</sup> Distance learning is made possible by today's technologies. Distance learning is being used at all levels and offers opportunities for students to earn accredited online diplomas, certifications, and degrees. The benefits of distance learning are numerous, allowing students to: take classes at any time and from any location, choose from a wide variety of institutions, do interactive teamwork, correspond with people from around the world, gain access to experts and online databases, easily contact teachers, and save money since they can learn from home and maintain a full or part time job.<sup>38</sup>

<sup>37</sup> (Washington Office of Superintendent of Public Instruction, 2008): <http://www.k12.wa.us/Communications/pressreleases.aspx>

<sup>38</sup> (Distance Learning College Guide, 2008): <http://www.distance-learning-college-guide.com/index.html>

Stillwater School, a new nonprofit school in Arlington, gives parents and students an entirely new approach to learning. Stillwater is the first school in Western Washington to offer the highly successful Expeditionary Learning (EL) concepts that have been proven in numerous schools across the country. EL curriculums center on using innovation and engaging experiences both in and out of the classroom to teach and motivate students. The 2008 class of students includes twelve kindergarten students. Stillwater will eventually expand into a K-12 school with 165 students.<sup>39</sup>

Innovation paves the way to entrepreneurship, and several organizations are dedicated to teaching students entrepreneurial values and skills. One such organization is Junior Achievement of Washington (JA), a non-profit organization providing business, economic, and life-skills programs to enhance the education of young people. JA offers hands-on, interactive materials to 105,000 K-12 students in 69 school districts throughout Western Washington and the Tri-Cities. Materials are designed to help students recognize how their talents can create better lives for themselves and the people around them, and how the spirit of entrepreneurship can be used to improve communities and excel in life.<sup>40</sup>

The Center for Innovation and Entrepreneurship (CIE) at University of Washington's Foster School of Business was one of the first business schools in the country to teach entrepreneurship courses. CIE offers an entrepreneurship curriculum for undergraduate and graduate students as well as a speaker series, business plan competition, technology entrepreneurship certification, and student entrepreneurship club.<sup>41</sup> Edmonds Community College, Everett Community College, and other Puget Sound area community colleges also offer courses, certifications, and degrees in entrepreneurship.

In addition to community colleges, non-profit organizations in Snohomish County offer entrepreneurship courses. The Snohomish County Economic Development Council and the Washington State Procurement Technical Assistance Center provide training via the Regional Small Business Development Program Snohomish County.<sup>42</sup> Likewise, the Northwest Women's Business Center is committed to education and community collaboration in the area of entrepreneurship and small business development.<sup>43</sup>

### **Sustainability in Education**

The Cloud Institute for Sustainability Education recognizes that the future of our communities depends on the ability of young people to take on the challenges of the economy, the environment, and civic participation. The mission of the Cloud Institute is to ensure the viability of sustainable communities by

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<sup>39</sup> (Wolcott, Stillwater School to Open in Arlington, 2008):

<http://www.heraldnet.com/article/20080528/SCBJ02/286071415&template=SCBJart>

<sup>40</sup> (Junior Achievement of Washington, 2008): <http://www.jawashington.org/index.html>

<sup>41</sup> (Foster School of Business, 2008): <http://foster.washington.edu/cie/about.shtml>

<sup>42</sup> (Washington State Procurement Technical Assistance Center, 2008): <http://www.washingtonptac.org/SBDPSnohomish.shtml>

<sup>43</sup> (Community Capital Development, 2008): <http://www.seattleccd.com/wbcmain/index.htm>

leveraging changes in K-12 school systems to prepare young people for a the shift toward a sustainable future. The organization works with school systems and educators to develop and deliver courses and programs wherein current and future leaders can invent a sustainable future. The 5-year-old Cloud Institute has emerged as a leader in the field of progressive education programs and was selected to develop courses and professional development opportunities for over 130 New York City public schools. The Cloud Institute is now partnering with the Environmental Protection Agency's Office of Research and Development to provide materials and classroom lessons that encourage high school students to think about sustainability. The organization also provides services to higher education associations and other groups interested in educating for a sustainable future.<sup>44</sup>

Teaching the concepts of sustainability is especially important as the creation of green-collared jobs increases. Governor Chris Gregoire plans to create 25,000 new green-collar jobs in Washington by 2020. Green-collar jobs will emerge at all levels, in all industries, and at every skill and wage level.<sup>45</sup> The state is currently making plans to prepare the next generation of workers to rise to global environmental challenges is to. Most green-collar jobs will require more education than a high school diploma but less than a 4-year degree. It is essential that local communities prepare the green-collar workforce by building green-collar job educational programs. Community colleges and other training institutions will need to be relied upon to design curricula and provide skills training, support services, and career guidance.<sup>46</sup>

## Conclusion

Growth in Education was strong from 1990-2005 and, despite a temporary set-back, is projected to be moderate and steady in the coming years.<sup>47</sup> Education will continue to be a growing cluster as the government and community seeks to improve education for children and meet the needs of changing demographics.<sup>48</sup> Given the steady employment and wage growth, large variety of occupations from which to choose, and geographic diversity of locations, the Education cluster is considered to be an excellent option for job candidates.<sup>49</sup>

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<sup>44</sup> (The Cloud Institute for Sustainability Education, 2008): <http://www.sustainabilityed.org/index.html>

<sup>45</sup> (Nicholas, 2008)

<sup>46</sup> (Apollo Alliance; Green For All, 2008)

<sup>47</sup> (Lockhart & Wallace, 2007)

<sup>48</sup> (Wallace, 2004)

<sup>49</sup> (Lockhart & Wallace, 2007)