

The Hawai'i Career Ready Study: 2012 Update

Prepared for Hawai'i P-20 Partnerships for Education

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OVERVIEW

WHAT IS “CAREER READY”?

Preparing high school graduates for successful transitions into careers is an increasingly important part of the national education agenda. Shifts in workforce needs have driven a demand for higher and higher skill levels, to the point where high school students going directly into the workforce need the same foundational knowledge and abilities as those students pursuing postsecondary education. National research confirms the convergence of required skills and aptitudes for career readiness and college readiness. Studies by Achieve’s American Diploma Project and ACT, and the extensive research behind the development of the national Common Core State Standards, all show that “students need the same level of academic preparation in math and literacy to be successful after high school no matter what path they choose.”¹ In addition, research shows that being “career ready” increasingly means pursuing some form of continuing education, including certificate programs, apprenticeships, and technical education. Depending on the career field, this postsecondary education might occur on-the-job for those high school students that enter directly into the workforce.

Because of the convergence of the skill requirements for college entry and career readiness, and because of the increasing need for continuing education, preparing high school students for jobs is part of a joint “college- and career-ready agenda.” Instead of two separate “tracks” based on postsecondary goals, there is now an effort to provide a single, rigorous course of study to prepare students for college **and** career. In assessing each state’s efforts to support the college- and career-readiness of students, Achieve’s annual policy survey focuses on: (1) strengthening K-12 academic standards and aligning them to college and career entry requirements, (2) increasing high school graduation rates and ensuring high school graduation requirements meet college- and career-ready goals, (3) providing college and career readiness assessments from middle school through high school to help ensure students are on track, (4) establishing P-20 data systems that align a state’s education efforts from preschool through higher education and careers, and (5) establishing accountability indicators that promote increased college- and career readiness.² These college- and career-ready policy measures are key for student success, as well as community success.

LOCAL CONTEXT: COLLEGE- AND CAREER-READY AGENDA

In order to advance “career readiness” in Hawai‘i, it is especially critical to merge college-preparation and career-preparation efforts. Hawai‘i ranks 10th in the nation in the percentage of jobs that will require a postsecondary degree by the year 2018.³ For that reason, a priority of Hawai‘i’s career-ready efforts is to encourage students to enroll in and complete postsecondary education, including two-year degrees, technical education, and certificate programs. As some students will choose to go

¹ Achieve, Inc.: News Statement, February 2, 2011. “‘Pathways to Prosperity’ Report Distorts the College- and Career-

² Achieve, Inc.: *Closing the Expectations Gap*, 2011.

³ Georgetown University Center on Education and the Workforce: *Projections of Job and Education Requirements Through 2018: Hawai‘i*, June 2010. <http://cew.georgetown.edu/jobs2018/states/>.

directly into the workforce, another priority for Hawai'i's education and labor leaders is to work together to understand how best to support and prepare these career-pathway students.

Hawai'i's education, government, community, and business leaders have made significant strides in advancing the local college- and career-readiness effort. Since the initial Hawai'i Career Ready Study in 2007, the state has seen great gains in the collaborative efforts to set the policies and obtain the resources to ensure Hawai'i's students are prepared to succeed after high school. Positive advancements include the following:

- The establishment of a joint Memorandum of Understanding in 2010 between the University of Hawai'i (UH), the State of Hawai'i Department of Education (DOE), and the Office of the Governor to promote a shared "Common Education Agenda that aligns education and workforce development goals."
- In 2010, the state of Hawai'i won a competitive bid for Race to the Top funds from the United States Department of Education. These funds support college- and career-readiness goals such as the implementation of national K-12 academic standards, the adoption of a more rigorous college- and career-ready diploma, setting targets for increased graduation rates and postsecondary enrollment rates, and the strengthening of the state's P-20 longitudinal data system.
- The rollout of Hawai'i P-20's "Step Up" campaign to help students, parents, and educators understand the importance of a more rigorous course of study in high school.
- The continued cross-sector work of the Hawai'i P-20 Council to promote the college- and career-ready agenda and improve educational achievement from early learning through college and career.
- The DOE joining 44 other states in adopting the Common Core State Standards that are research-based, rigorous standards aligned to both college and living wage career entry requirements.
- Significant K-12 student achievement gains—the 2012 results of the DOE Hawai'i State Assessment show steady gains at all grade levels in math and English language arts.

HAWAI'I CAREER READY STUDY: 2012 UPDATE

Updating the Hawai'i Career Ready Study at this juncture will help to identify how the changes in the education landscape and economic and workforce landscapes might impact career-readiness efforts. This 2012 update to the Hawai'i Career Ready Study and its survey and interview tools were designed to illustrate how the DOE's new Common Core State Standards will align with Hawai'i employers' search for high quality employees. This study also maps the DOE "General Learner Outcomes" (GLOs) to specific "soft skills" sought after by employers. Lastly, this report updates the qualitative and quantitative information about employer needs in today's more constricted economy.

This 2012 Hawai'i Career Ready Study update also aims to provide ongoing data and information to help support the progress of Hawai'i's overall college- and career-ready efforts. There are multiple indicators that help to gauge the extent to which students are prepared for success in college. Hawai'i collects data on postsecondary enrollment and completion, as well as the level of remediation needed by students entering the University of Hawai'i system. This study and others like it aim to provide a similar "checkpoint" to assess progress and gain a deeper understanding of the extent to which students are prepared for direct entry into the workforce.

2012 Update: Methodology and Approach

Storyline Consulting developed an online survey tool for Hawai'i employers to assess the relative importance of the DOE General Learner Outcomes and new Common Core State Standards in their workplaces. In addition, employers were asked to assess their new employees' level of preparation within these specific standards and outcomes. The 16-question survey also assessed available living wage job opportunities for high school graduates, and solicited observations about current workforce preparedness. In total, 123 individuals completed the survey, which was distributed through the Society of Human Resources and the Chamber of Commerce. Employers participated from a diverse range of company sizes and industries.

Company Size	Survey
1 – 49 employees	13%
50 – 99 employees	10%
100 – 249 employees	20%
250 – 499 employees	12%
500 – 999 employees	14%
1000+ employees	31%

Industry/Sub-Industry	Survey
Agriculture	1%
Banking	7%
Clean Energy	4%
Communications	4%
Construction	2%
Education	17%
Government	6%
Health Care	10%
Hospitality	13%
Information Technology	2%
Insurance	1%
Legal Services	3%
Military	1%
Nonprofit & Social	7%
Professional services	10%
Retail	5%
Transportation	1%
Utilities	1%
Other	6%

Storyline also interviewed representatives from eight of the key industries examined in 2007. The eight industries included in this 2012 update were selected because they continue to be large or growing industries in Hawai'i's economy. In each of the sample industries, employers offered examples of entry level positions for high school graduates that could lead to living wage career paths. Interviewers also asked employers for their observations about the importance of certain skills and their current experience with recruiting, hiring, and training employees.

Industry or Sub-Industry	2010 Job Count	2020 Projections	Living Wage Career Path Examples
Agriculture	6,130	6,030	Field worker -> Technician
Banking	8,940	9,150	Teller -> Financial Services Officer
Clean Energy	3,816	5,623*	Solar Installer -> Supervisor
Construction	28,390	36,380	Apprentice -> Carpenter
Government**	74,050	76,290	Resident Services Coordinator -> Assistant Manager (military, civilian)
Health Care	50,280	60,840	Environmental Services Worker -> Assistant Technician
Hotels	34,000	38,400	Guest Services Associate -> Guest Services Manager
Legal Services	3,575	3,712***	Utility Clerk -> Legal Secretary
TOTAL HI EMPLOYMENT	651,740	727,440	

Source: State of Hawai'i Department of Labor and Industrial Relations

*2018 projections

**2007 measured Military/Civilian job counts, but DLIR does not currently separate from Government

***Estimate using growth rate for Professional Services

LIVING WAGE CAREER PATHS

As in 2007, this report focuses on "living wage" job opportunities for high school graduates. For young people today, a "good job" will include a pathway that allows for advancement, the ability to support a family and the opportunity to contribute positively to the community. A "living wage," or self-sufficiency income standard, provides an adjusted view of the earnings required to support a family based on a local cost of living. Earning a living wage keeps families out of poverty and allows them to build better futures.

Hawai'i's most recently published living wage data estimates range from \$28,000 - \$61,000 for various family sizes. This study uses a living wage standard of \$44,000, in the middle of the state's range and an inflation-adjusted increase from the \$40,000 figure used in the 2007 study.

Self-Sufficiency Income Standard

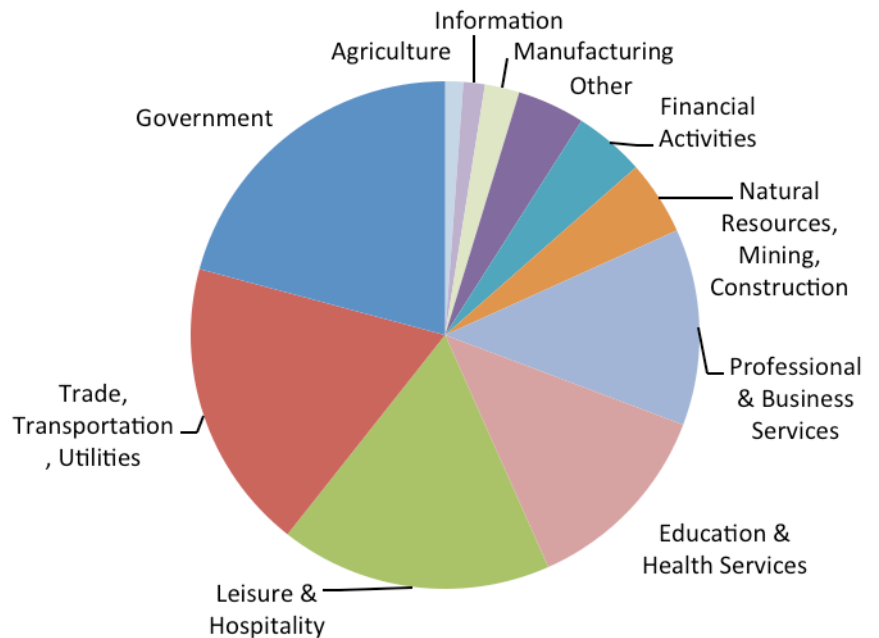
1 Adult	\$28,258
2 Adults	\$36,936
1 Adult + 1 Child	\$45,373
1 Adult + 2 Children	\$55,136
2 Adults + 2 Children	\$61,395

Source: Department of Business, Economic Development, and Tourism Self-Sufficiency Income Standard Estimates for Hawai'i, December 2011

Almost half of all employers surveyed said that their company has opportunities for high school graduates to pursue living wage career paths. Eighty percent of employers who took the survey say they hire employees with a high school diploma "Sometimes" or "Often."

ECONOMIC CONTEXT

In 2010, Hawai'i's Department of Labor and Industrial Relations reported 651,740 jobs in the state economy. These jobs were distributed among the following industries shown in the pie chart. The total job count has decreased since the previous study in 2007, and this year's surveys and interviews reflect a more challenging business climate. While demand for workers may be lower, employers tell us that the need for skilled employees is more important than ever.



In the past five years, Hawai'i's economy has changed substantially. The 2007 study pointed to rising entrepreneurship, retirement rates, automation and high technology sector growth as drivers of needed workforce skills. Today, a new set of challenges and opportunities is driving the search for talented employees:

Changing business models

"So much has changed in in the last five years. From the economic downfall, an enormous amount of regulation and compliance issues are forcing the industry to think creatively and innovatively. The business model is changing dramatically, and we have to think about developing talent in a way that is relevant today."

Lean staffing structures

"This is an age of doing more with less. Today we run a lot leaner, especially with leadership positions. Sometimes I feel like I don't have enough people to do what we need to do."

Multi-generational workforce

"For the first time, we are seeing four generations in the workplace. Up and coming employees need to understand how to relate to the people in their work teams and our customer pool."

Rapid technological advancement

"Many of Hawai'i's companies have been around for 20 to 25 years and already have antiquated processes. We get so used to doing it this way, but we need to remember to ask whether a process is still relevant."

READY RESOURCES

Government, business, and community sectors have a vested interest in ensuring that high school graduates are well educated and well prepared. As one employer put it, “We’re not doing enough to recognize a segment of the population who goes directly in the workforce. Our economy does not run from only those with college degrees. I wouldn’t get all the work done if that were the case. We need to make sure we don’t lose sight of the fact that a segment of the workforce needs a solid high school background to enter the workforce.” Workforce and business stakeholders throughout Hawai‘i understand the importance of investing in K-12 education, and they articulate the reasons, the vision, and the strategies for making these investments.

“Businesses spend time supporting education, because they realize the vast majority of workers will be coming out of our schools. This is what workforce development support of public schools is all about.”

- Hawai‘i Business Roundtable

“Every industry is looking out for their future. Employers are looking for the best and the brightest, to the extent that the [school] system can encourage those kinds of opportunities. This happens from people working together—companies provide some resources to students who could become interested.”

- Hawai‘i Department of Labor and Industrial Relations

“We are in the talent management business - how do you use your number one strategic asset? This is a whole different mindset. We’re looking to develop competencies like credible activist, cultural steward, strategic developer, project manager...these are the skill sets that help people—and organizations—succeed.”

- Society of Human Resources Managers

Business and workforce development organizations have invested in a number of efforts that build workforce skills, help Hawai‘i citizens find living wage career opportunities, and contribute to a thriving economy. Two examples include:

- **Career Kōkua - Department of Labor and Industrial Relations (DLIR).** Through a free interactive website, the State of Hawai‘i Department of Labor and Industrial Relations gathers resources to help job seekers map a path to career success. News, videos, and a “Career of the Week” section offer a robust set of resources for exploring and preparing for a variety of career paths.
- **Get a L.I.F.E. - Society of Human Resource Managers (SHRM).** Through a program available to teachers and counselors in Hawai‘i schools, SHRM volunteers go into the classroom to help students work on career planning. Students develop career goals, job application basics, resume writing, and interviewing skills with real world perspective and coaching from Human Resource managers.

“We were the first Chamber in the country to participate with the [high school] senior project. Reports I heard . . . got you right in the heart about how some of the students weren’t doing well, and maybe didn’t communicate well. But they got started on a project and got some mentorship, and ending up doing a great job. From teachers, mentors, and others, we heard great feedback. This experience really helped the seniors understand what real life was like—real jobs, real projects.”

- Hawai‘i Chamber of Commerce

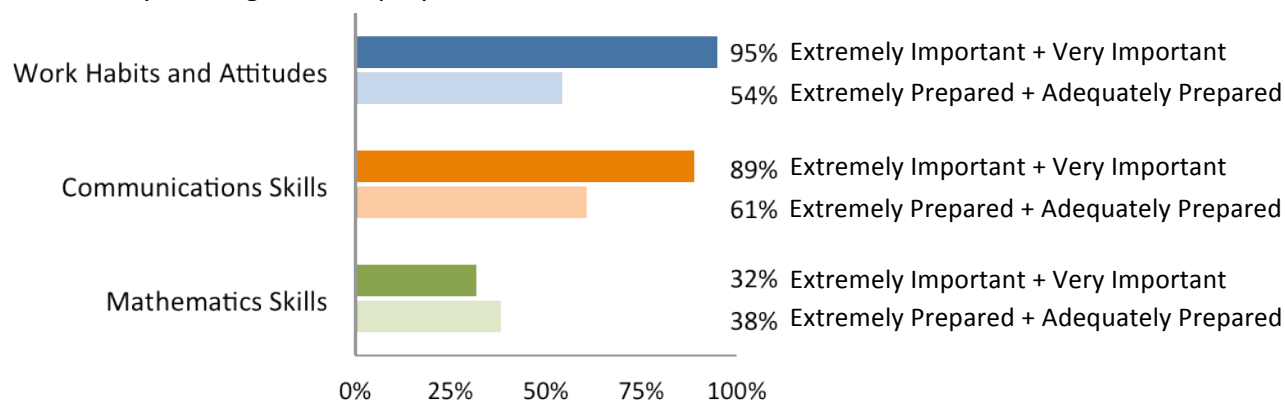
SURVEY & INTERVIEW FINDINGS – WHAT DOES “CAREER READY” MEAN?

The online survey asked employers about the importance of skills and preparedness of workers within three areas. These areas map to the Common Core State Standards that the DOE is currently implementing statewide, as well as to the longstanding General Learner Outcomes.

Work Habits and Attitudes	Communication Skills	Mathematics Skills
Map to DOE General Learner Outcomes: <ul style="list-style-type: none"> ▪ Self-directed Learner ▪ Community Contributor ▪ Complex Thinker ▪ Quality Producer ▪ Effective Communicator ▪ Ethical and Effective User of Technology 	Map to national Common Core Anchor Standards in English Language Arts: <ul style="list-style-type: none"> ▪ Reading ▪ Writing ▪ Speaking ▪ Language 	Map to national Common Core Anchor Standards in Mathematical Content: <ul style="list-style-type: none"> ▪ Numbers and Quantities ▪ Algebra ▪ Functions ▪ Modeling ▪ Statistics and Probability ▪ Geometry

OVERVIEW OF RESULTS

Overall survey results show the percentage of employers who rated the above skills as “Extremely Important” or “Very Important” and the percentage that said their employees are “Extremely Prepared” or “Adequately Prepared” in each category. The following sections delve more completely into survey rankings and employer comments in each of these three areas.



Work Habits and Attitudes that map to the DOE General Learner Outcomes were repeatedly emphasized as the most critical to workplace success. All employers interviewed stressed these non-academic skills were crucial in advancing in career paths. All six skills within work habits ranked highly important. As one workforce development advocate shares, “When we talk to employers, soft skills keep coming up. They want employees to understand instruction, show up on time, dress properly, and communicate well. They say ‘we will train for our business, just give me someone with common sense skills.’”

Communication skills encompass academic English language arts areas. Both written and verbal communication skills are also critical to employee success at work. One Human Resources Director

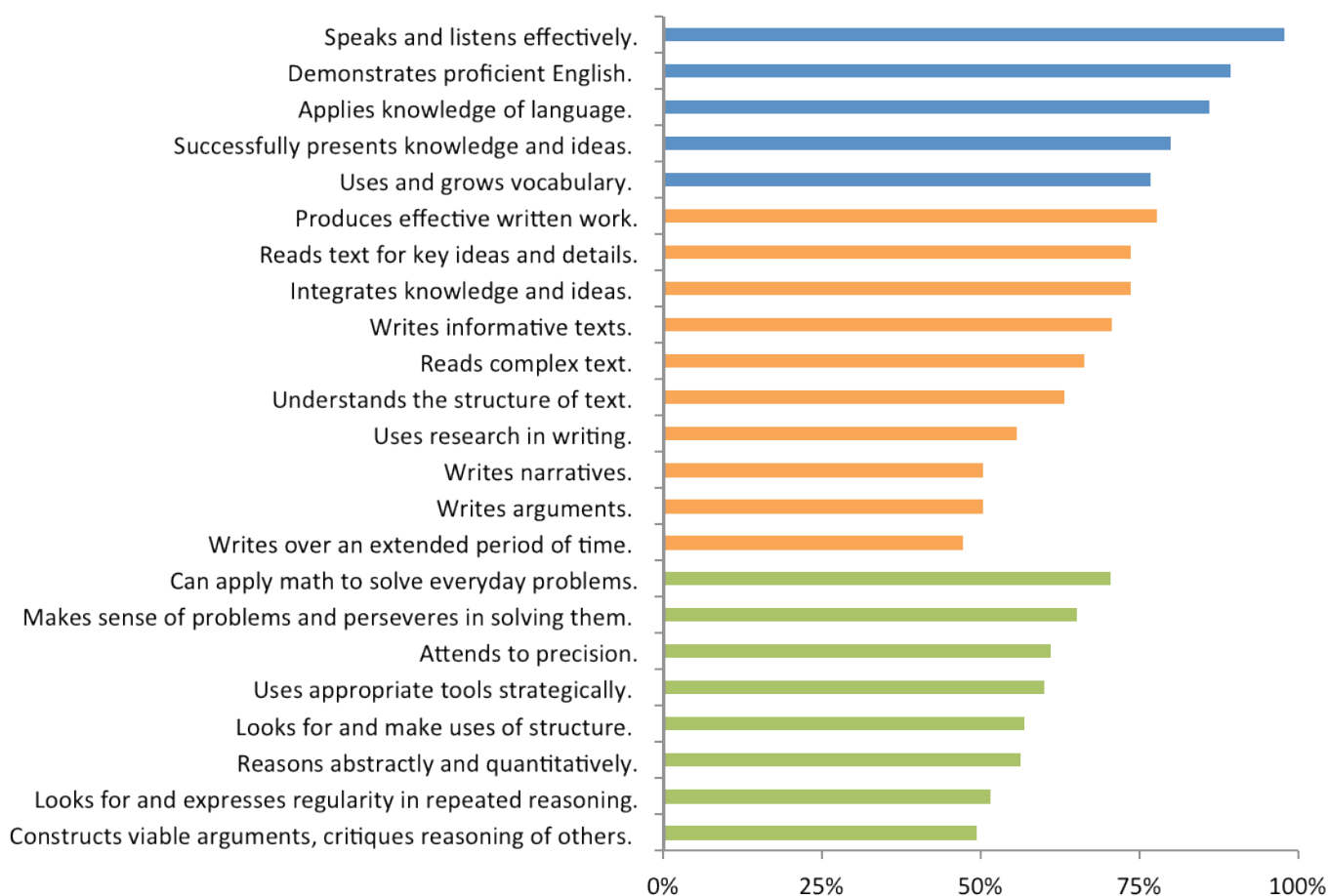
says, “We have many employees who can take direction and execute their job. The ones who shine not only have a high technical skill but also communicate effectively. They identify problems and are part of the solution. These people stand out.”

Mathematics skills were less frequently cited as important compared to the other two skill sets. In contrast to work habits and communication skills, very few employers indicate all six mathematics subject areas are important to most positions. This is also consistent with interview findings.

ACADEMIC SKILLS BASED ON THE COMMON CORE STATE STANDARDS

The Common Core State Standards (CCSS) for K-12 education provide more detail for the broad academic subject areas assessed above. The CCSS contain strands with specific competencies in both English language arts (communication) and mathematics. The communications skills assessment used the four broad categories of CCSS in English language arts, and the Mathematics Skills assessment was based on the six CCSS of mathematical content. The more specific standards were summarized for the last section of the survey. In some cases the standards were condensed for simplicity.

Employers were asked how important these specific skills were in their industry. The areas in which employers reported the highest importance also had the most overlap with the Work Habits and Attitudes, or the soft skills emphasized above.



In addition to the above skill sets, interviews surfaced a handful of common themes about what it takes to be “career ready” today:

Multiple skill sets

“Jobs are being consolidated. Before you had a sales person and a back office technical expert – now these jobs are merged, and employees are expected to have skills for both.”

Experience—formal or informal—counts

“Students who have done volunteer work tend to have a better understanding of asking questions, communicating, and taking initiative. They understand why they are there.”

Character

“We look for characteristics over content knowledge. Skills can be learned, but work ethic and initiative are harder to teach.”

Lifelong learning

“On-the-job learning is so important. Employers don’t always have the resources for formal training programs. The ability to learn—and a value of learning—is critical.”

Work ethic

“There is talk from us, the “older” generations, that maybe we don’t see the same kind of work ethic in young people, maybe they don’t know how to work anymore. I think that’s a myth. Every generation works hard. They just work different. We have to understand and harness their energy.”

SURVEY RESULTS: WORK HABITS AND ATTITUDES

The Hawai'i Department of Education's six General Learner Outcomes (GLOs) were translated into workplace skills and used to measure employer perceptions of work habits and attitudes. The GLOs (at right) assess student effort and work habits separately from academic performance in content areas. A rubric for the GLOs serves as a guideline for teachers to observe student behaviors through daily classroom activities. Elementary teachers communicate GLO understanding with parents via report cards; secondary teachers incorporate the GLOs into content instruction but do not complete report card assessments.

GENERAL LEARNER OUTCOMES

- Self-directed Learner
- Community Contributor
- Complex Thinker
- Quality Producer
- Effective Communicator
- Ethical and Effective User of Technology

Also called “soft skills” or “employability,” the work habits and attitudes were cited as the most critical for employee success. Employers consistently indicated that these habits and attitudes are as important, or more important, than mastery of academic content areas.

Ability to work with other people 100% Extremely + Very Important

“We look for skills not just for running a hotel, but skills that are good for people. That’s our industry—it’s about how you treat people, and how you connect with people.”

Effective communication 100% Extremely + Very Important

“Critical thinking skill set is really important. We use experience-based examples in interviewing. Can a candidate think about what you’re asking, identify a relevant situation, and walk you through his or her thought process? We don’t care if the outcome was successful, but we are testing their communication and critical thinking.”

Production of quality work 99% Extremely + Very Important

“People with ‘business skill’ have an overall work ethic that is different. They say, ‘I want to do a good job, not just for the company but for myself.’ They want to better themselves and are committed no matter what the task.”

Responsibility for learning and actions 97% Extremely + Very Important

“If employees see a problem, we want them to take ownership for the problem even if it’s not their area instead of saying ‘it’s not my job.’”

Critical thinking and problem solving 97% Extremely + Very Important

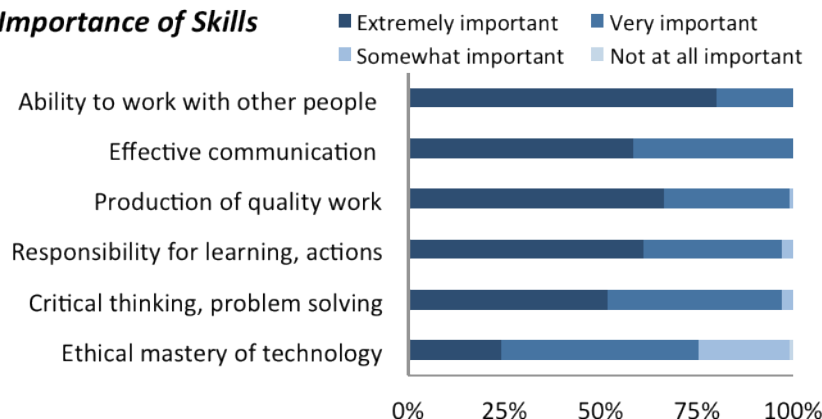
“Employees must be able to think strategically and not get stuck in the transactional/operational that has become their comfort zone.”

Ethical mastery of technology 76% Extremely + Very Important

“Technology will never replace the human interaction, but it will dramatically change it. We need employees who are able to use it, are comfortable with its use, and use it responsibly. Underscore ‘responsibly!’”

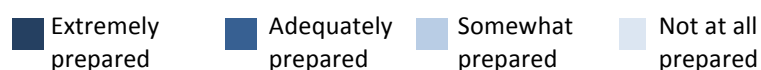
Survey Responses – Work Habits and Attitudes

Importance of Skills

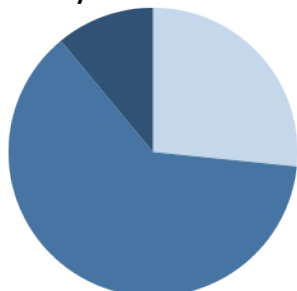


Consistent with the interviews' emphasis on these skills, 100% of survey respondents said that *Ability to work with others* and *Effective communication* are important work habits. Nearly all said *Quality work* (99%), *Responsibility* (97%), and *Critical thinking* (97%) are also highly important. Three-quarters of employers said *Technology* was important, yet this is the only skill in which any employer (1%) rated it "Not at all important."

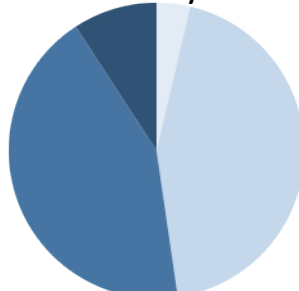
Employee Preparedness



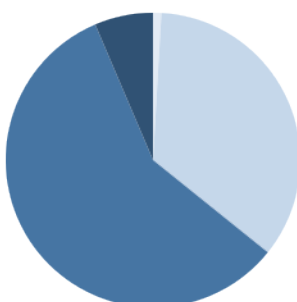
1. Ability to work with other people



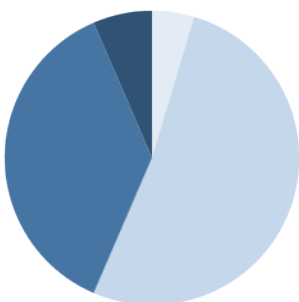
4. Ethical mastery of technology



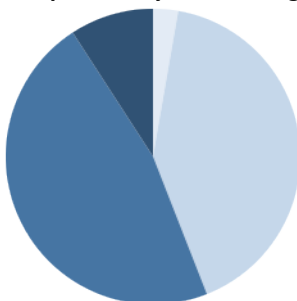
2. Production of quality work



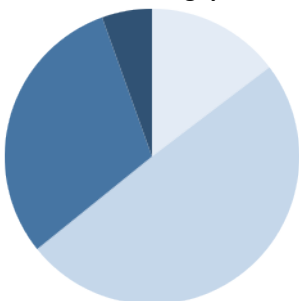
5. Effective communication



3. Responsibility for learning, actions



6. Critical thinking, problem solving



Almost three-quarters (73%) of employers said that, on average, employees are prepared in the *Ability to work with other people*.

Almost two-thirds (64%) said new hires are prepared in the *Production of quality work*, and over half answered that employees are prepared to take *Responsibility for learning and actions* (56%) and convey *Ethical mastery of technology* (52%).

Employers report the lowest levels of average preparation in *Effective communication* (43%) and *Critical thinking and problem solving* (36%). In *Critical Thinking*, 15% of employers said their average new hires are "Not at all prepared" with this skill.

Compared to the other two skill areas, Work Habits and Attitudes had the highest percentage of employers who reported newly hires to be "Extremely prepared." In each area, 6 – 11% of those surveyed said their employees achieved the highest level of preparedness.

SURVEY RESULTS: COMMUNICATION SKILLS

Communication skills were measured using four categories laid out in the Common Core State Standards for English language arts (at right). The CCSS define the knowledge and skills students are expected to gain through K-12 education. They provide students, teachers, and parents with a common framework for understanding learning, and they align with expectations for college and work. The English language arts standards include both “College and Career Readiness Anchor Standards,” general learning outcomes that span K-12, and grade-specific standards. One of the twelve Anchor Standards in Reading, and examples of grade-specific mastery is shown here:

**Common Core State Standards
for English Language Arts**

- Reading
- Writing
- Speaking and Listening
- Language

Anchor Standard: Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Kindergarten Students:	Grade 1 Students:	Grade 12 Students:
With prompting and support, ask and answer questions about key details in a text.	Ask and answer questions about key details in a text.	Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

Survey and interview results demonstrate how these academic skills are integral for employees’ work. Communication skills, while also emphasized as a “soft skill,” were consistently cited as critical to the workplace. “It takes [technical] skills to execute the process, but communication is the glue,” one Human Resources Director shared. “We need to know what was accomplished in a day, whether it’s through [employees] entering updates into the data system or through verbal or written reports [to their managers]. That way we know how to then schedule crews the next day.”

Speaking

98% Extremely + Very Important

“Good and polished communication and presentation is a critical skill set when dealing with customers.”

Reading

97% Extremely + Very Important

“Sometimes we’ll send an email with instructions for completing the task. Too often people read the beginning and skip to the end. We have to go back and ask them to read the middle again, because they missed the point.”

Writing

83% Extremely + Very Important

“It is important to write a strong cover letter and resume. This goes a long way toward getting them hired if they write a concise letter and build a resume that emphasizes their strong points.”

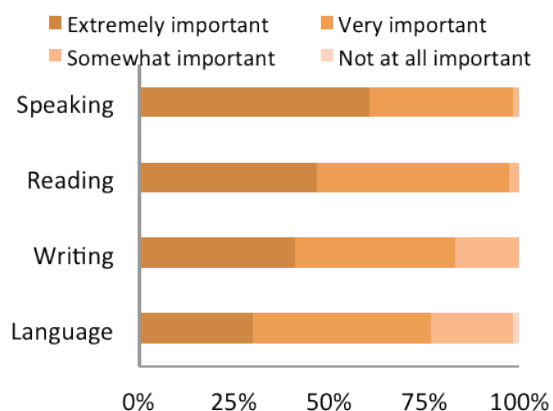
Language

76% Extremely + Very Important

“We want people with the skills to write and understand English—knowing how to use appropriate language, and then write and format a letter professionally. Sometimes even college graduates don’t know this!”

Survey Responses – Communication Skills

Importance of Skills



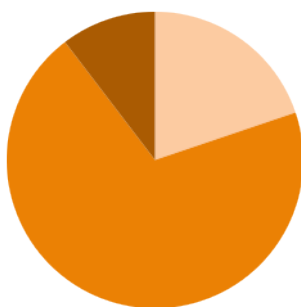
Almost all employers agreed on the importance of *Speaking* (98%) and *Reading* (97%) skills. *Writing* skills were only marginally less crucial with 83% of employers ranking them highly important. Seventy-six percent of employers reported *Language* to be highly important, and this was the only skill where any employers deemed it “Not at all important” (2%). These survey results were consistent with the emphasis on communication throughout employer

interviews.

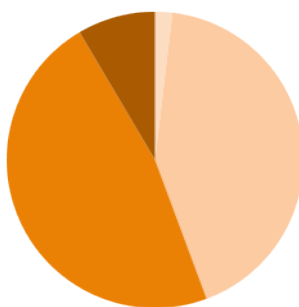
Employee Preparedness



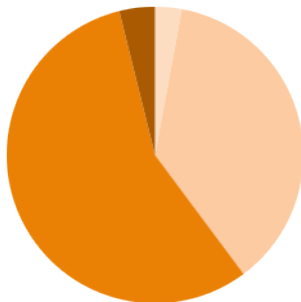
1. Reading



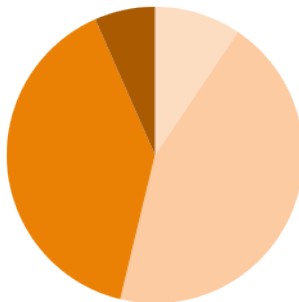
3. Speaking



2. Language



4. Writing



In *Speaking*, the skill cited as most critical, just over half (55%) of the respondents said employees are “Extremely prepared” or “Adequately prepared.”

Over three-quarters of employers (80%) reported that, on average, employees are prepared in *Reading*. No employer said that their hires are “Not at all prepared” in this area. Similarly, interviews indicated that it would be highly unlikely for candidates to be hired without demonstrating basic reading abilities.

Writing is the area where employers felt new hires needed the most improvement, with less than half (47%) saying new hires are prepared. Sixty percent of employers report hires are prepared in *Language*.

SURVEY RESULTS: MATHEMATICS SKILLS

Mathematics skills were measured in six general categories used by the Common Core State Standards for Mathematics. The CCSS set out eight “Standards of Mathematical Practice” which include competencies like problem solving, reasoning, and connectedness. Students in all grade levels are expected to build these practices. For high school students, the CCSS identify six areas of “Mathematical Content” (right) that lay out priorities for high school student proficiency.

Common Core State Standards for Mathematical Content

- Numbers and Quantities
- Algebra
- Functions
- Modeling
- Statistics and Probability
- Geometry

Examples of grade-specific standards that relate to Numbers and Quantity include:

Kindergarten Students:

Counting and Cardinality: Know number names and the count sequence.

1. Count to 100 by ones and by tens.

Grade 6 Students:

The Number System: Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

High School Students:

The Real Number System: Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.

Survey results and interviews indicated employers, overall, require mathematics skills less frequently than the other two skill areas. For those employers that do require math skills, there is significant opportunity to improve employee preparation. Interview discussions seem to indicate that when math skills are needed, well-prepared employees are essential but hard to find. Math skills span more than computation, and include the ability communicate results, form conclusions, and make logical arguments.

Overall Mathematics

“Some people have to do “light math.” Supervisors need to be excel proficient, which is math-based ... Math is tied to the vocation. If I’m a mechanic, I need to understand the concepts to utilize my vocational skills.”

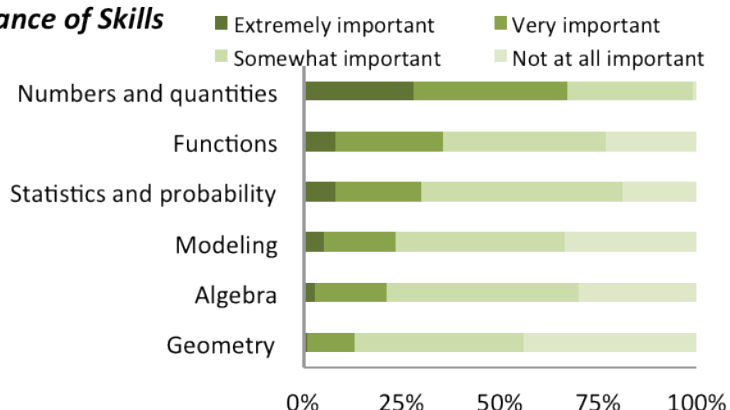
Numbers and Quantities

67% Extremely + Very Important

“Our employees are required to use basic math to measure things out, and do quick conversion calculations between inches and the metric system. They also need to understand plans and communicate to their team and boss.”

Survey Responses – Mathematics Skills

Importance of Skills



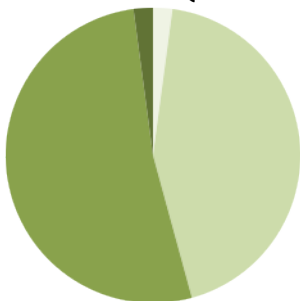
Numbers and quantities was by far the most important skill cited, with over two-thirds of employers (67%) giving it high importance. Interviews corroborated the need for employees to have addition, subtraction, and other basic math skills.

Only 35% of employers reported *Functions* to be important, and less than one-third of employers found the other four skill areas to be highly important.

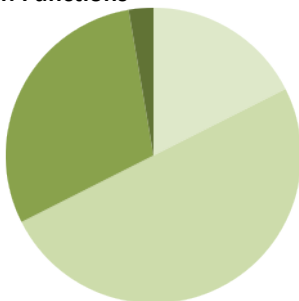
Employee Preparedness



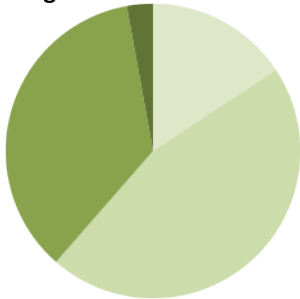
1. Numbers and Quantities



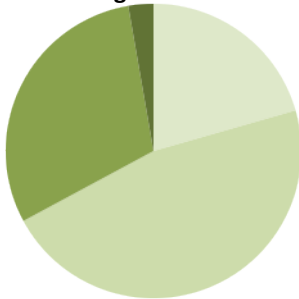
4. Functions



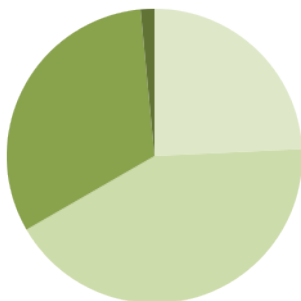
2. Algebra



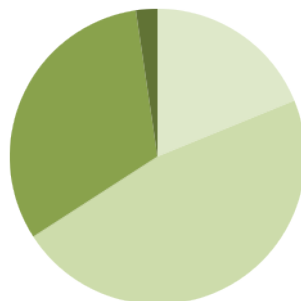
5. Modeling



3. Statistics and Probability



6. Geometry



The data reported in these charts represent a smaller subset of employers than previous sections. In Work Habits and Attitudes and Communication Skills, only 1% to 3% of employers rated each skill as “Not applicable.” This was comparable to the 3% of employers who said the *Numbers and Quantities* skill is not relevant to their employees. In contrast, 11% said *Statistics and Probability* is not relevant, and 21 - 31% said the other four skills are “Not applicable.”

Over half of employers (55%) found new employees to be prepared in *Numbers and Quantities*, and 39% reported that the average employee is prepared in *Algebra*. In the other skill areas, about one-third of employers cited the skill as relevant and said employees are prepared.

In mathematics skills, employers reported the lowest percentage of “Extremely prepared” (1-2%) and the highest levels of “Not at all prepared” (12-17% excluding *Numbers and Quantities*).

WORKPLACE TASKS

As in 2007, interviewers asked employers to share typical tasks for employees with a high school degree. Sample tasks show the GLOs and CCSS represented:

Agriculture

“A Nursery Supervisor role manages and oversees any portion of a process. If planting, the Supervisor needs to organize the crew, ensure the right seed is there, log work into the computer system, and match what is mapped and planned for every row we’re planting. This requires coordination and communication with the team preparing the field. It requires leading a team of people to get things done the right way, in the right time frame. The Supervisor needs to map the process, document it, check on progress, and report what gets done. They also need the ability to identify if something is going wrong. They should know how to report appropriately and know when to stop, or when to make adjustments.”

- ✓ Ability to work with others
- ✓ Effective communication
- ✓ Production of quality work
- ✓ Responsibility for learning, actions
- ✓ Critical thinking, problem solving
- ✓ Ethical mastery of technology
- ✓ Reading
- ✓ Speaking
- ✓ Language
- ✓ Numbers and Quantities
- ✓ Functions
- ✓ Modeling

Banking

“An entry level employee needs to know how to process transactions like deposits or withdrawals. A Financial Services Officer needs to understand what product would best fit the [credit union] member. When someone comes in and wants to buy a car, they could pay for it through a home equity, credit card, personal loan, auto loan. A financial services officer would need to consult what the best loan product would be for that individual. They need math skills to be able to analyze each one. Maybe they want a tax write off. Maybe the loan can be expensed to their business. The Officer needs to identify and articulate the pros and cons of each. They need to understand each product and work with the member to determine the right one for the situation.”

- ✓ Ability to work with others
- ✓ Effective communication
- ✓ Responsibility for learning, actions
- ✓ Critical thinking, problem solving
- ✓ Reading
- ✓ Speaking
- ✓ Language
- ✓ Numbers and Quantities
- ✓ Functions
- ✓ Modeling

Healthcare

“Environmental Services workers deal with hazardous materials, hazardous waste, and blood born pathogens. They have to have the mental capacity to deal with all matter, and how it should be handled. They encounter this on a daily basis in patient rooms and other work areas. For example, the nuclear irradiator room, regulated by the Nuclear Regulatory Commission, has to have individuals who will clean it. They need to understand rules and regulations that cover that. We’re not just talking about your typical housekeeper, we must have individuals who can grasp the concepts and rules and regulations. They have to know exactly what to do and who to contact if a situation should occur. They need to have enough of the academic rigor to read and learn everything there is to learn. It’s not just cleaning!”

- ✓ Effective communication
- ✓ Production of quality work
- ✓ Responsibility for learning, actions
- ✓ Critical thinking, problem solving
- ✓ Ethical mastery of technology
- ✓ Reading
- ✓ Numbers and Quantities

CONCLUSION

The 2012 update to the Hawai'i Career Ready Study captures sentiments consistent with those shared by employers in 2007. Work habits and attitudes, or soft skills, still rise to the top as most important for workplace success and most difficult to develop on the job. Communication skills, or English language arts subjects like reading and verbal competencies, are still imperative. And mathematics, while still much less frequently required, is an important building block for employee skills in using technology, thinking logically, and communicating quantitative concepts.

This year's study also notes "career readiness" progress in the last five years. Presently, more than 60% of employers surveyed said new hires are prepared in communication skills, whereas less than one-third of those interviewed expressed the same level of confidence in 2007. Some also noted a closing of the gap in mathematics skills. In 2007, a carpenters' union representative noted that half of the apprentices were failing an 8th grade-level math test. Recently he says, "I have seen a big improvement. BIG improvement. Before, we used to test, then give them one more time, try to teach them, give them one more test. A lot of kids were good with their hands, and we wanted them and they couldn't pass! But I've seen a big improvement as far as the help that was given to them early on in school... Kids are coming in more prepared now. Through the year, the teachers in high school are telling kids what they need."

Opportunities for Hawai'i's K-12 education system to address gaps in career readiness still exist. Integrating career exploration and experiences further into the classroom is a concept that came up in interviews. "High schools can hone in on the job [soft] skills," one Human Resources Director muses, "Otherwise it's going to be who you know, rather than what skills you bring. To put everyone on the same playing field, everyone should go through a career course. Maybe one in sophomore or junior year, and senior year is [the] real deal with mock interviews. It's always a challenge for us to get out and commit the day to interviewing, but I think it's worth it and I would like to do it every year ... Everyone is strapped, but we do have time to make this investment."

Employers interviewed shared their thoughts on progress and challenges, and the recurring theme of cross-sector efforts to shape tomorrow's workforce. A broad set of stakeholders are investing in Hawai'i's students and the next generation of our workforce: businesses, government, community organizations, supervisors, human resources professionals, teachers, parents, and students themselves have joint responsibility for this opportunity. A recruiting specialist in the healthcare field describes the challenge and the opportunity in a way that is relevant across industries. "I think about this a lot," he said, "How much can the schools do, how much should the schools [do]? I think it's a shared responsibility between parents and the education system. No matter what, if we're supposed to be educating children for their future—they are our future—we need to be preparing them with the skills they need. And it can't just be STEM. We need to help develop the soft skills. These need to be a joint effort. And I do know there are some programs, like career pathways, [that] do get at some of this. If that was expanded in other ways, it could make a big impact."

APPENDIX A: SOURCES AND ACKNOWLEDGMENTS

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This report is based on the methodology and format of the first Hawai‘i Career Ready Study completed by 3Point in 2007.

APPENDIX B: SURVEY INSTRUMENT

This survey is designed to help the state public education system understand which skills and characteristics are most important to Hawai'i's employers when hiring, and assess the "career readiness" of Hawai'i's high school graduates.

Page 1. COMPANY INFORMATION

1. Which industry best describes your company/organization? (Please choose only one.)
 - Agriculture
 - Banking
 - Clean Energy
 - Construction
 - Education
 - Film & Digital Media
 - Government
 - Health Care
 - Hospitality
 - Information Technology
 - Insurance
 - Legal Services
 - Military
 - Retail
 - Social Services
 - Other
2. How many workers does your company employ?
 - 1 – 49
 - 50 – 99
 - 100 – 249
 - 250 – 499
 - 500 – 999
 - 1000+
3. Does your company/organization have any career opportunities that provide a salary of \$44,000 or more, and require only a high school degree and on-the-job training? (yes/no)
4. How often does your company/organization hire for positions that require only a high school degree?
 - Never (If "Never", skip to Academic Skills)
 - Rarely
 - Sometimes
 - Often

Page 2: WORK HABITS AND ATTITUDES

5. How important are the following skill sets to your company? (Not at all important, Somewhat important, Very important, Extremely important)
- Responsibility for learning and actions
 - Ability to work with other people
 - Critical thinking and problem solving
 - Production of quality work
 - Effective communication
 - Effective and ethical mastery of technology
6. How prepared are new hires in the following areas? (Not at all prepared, Somewhat prepared, Adequately prepared, Extremely prepared, Not applicable)
- Responsibility for learning and actions
 - Ability to work with other people
 - Critical thinking and problem solving
 - Production of quality work
 - Effective communication
 - Effective and ethical mastery of technology
7. Please share any other comments about the work habits and attitudes of your employees. If you feel that new hires have been unprepared, what are some trainings, strategies or efforts have you used to improve employee abilities?

Page 3: COMMUNICATION SKILLS

8. How important are the following skill sets to your company/organization? (Not at all important, Somewhat important, Very important, Extremely important)
- Reading
 - Writing
 - Speaking & Listening
 - Language
9. How prepared are new hires in the following areas? (Not at all prepared, Somewhat prepared, Adequately prepared, Extremely prepared, Not applicable)
- Reading
 - Writing
 - Speaking & Listening
 - Language
10. Please share any other comments about the language and communication skills of your employees. If you feel that new hires have been unprepared, what are some trainings, strategies or efforts have you used to improve employee abilities?

Page 4: MATHEMATICS SKILLS

11. How important are the following skill sets to your company/organization? (Not at all important, Somewhat important, Very important, Extremely important)
 - Numbers and quantities
 - Algebra
 - Functions
 - Modeling
 - Geometry
 - Statistics and probability
12. How prepared are new hires in the following areas? (Not at all prepared, Somewhat prepared, Adequately prepared, Extremely prepared, Not applicable)
 - Numbers and quantities
 - Algebra
 - Functions
 - Modeling
 - Geometry
 - Statistics and probability
13. Please share any other comments about the mathematics skills of your employees. If you feel that new hires have been unprepared, what are some strategies or efforts have you used to improve employee abilities?

Section 4: ACADEMIC SKILLS

The State Department of Education (DOE) is adopting national academic standards to help prepare students for college and careers. Please help us understand which of these “common core” academic abilities are important in your industry. (Note: Standards combined and language simplified for survey purposes.)

14. How important are the following speaking, listening and language competencies in your industry? (Not at all important, Somewhat important, Very important, Extremely important)
 - Speaks and listens effectively. Can hold conversations with diverse partners, build on others’ ideas, express themselves, evaluate information presented in various formats, and understand a speaker’s point of view. (maps to 3 Comprehension and Collaboration Standards)
 - Successfully presents knowledge and ideas. Can present information so listeners can follow reasoning and purpose, uses digital media and visual displays effectively, and adapts speech to context and situations as appropriate. (maps to 3 Presentation of Knowledge and Ideas Standards)
 - Demonstrates proficient English. Can write or speak using standard English grammar, and write using standard punctuation, capitalization and spelling. (maps to 2 Conventions of Standard English Standards)

- Applies knowledge of language. Can understand how language functions in different contexts, comprehends with reading or listening, and makes effective choices when writing or speaking.
 - Uses and grows vocabulary. Can determine meanings of unknown words using context clues, understand figurative language and nuance, and acquire general and domain-specific words and phrases used at the career level. (maps to 3 Vocabulary Acquisition and Use Standards)
15. How important are the following reading and writing competencies in your industry? (Not at all important, Somewhat important, Very important, Extremely important)
- Reads complex text. Can comprehend complex material independently and proficiently
 - Reads text for key ideas and details. Uses logic, cites evidence, recognizes key themes, summarizes important details, and analyzes how things happen throughout the text. (maps to 3 Key Ideas and Details Standards)
 - Understands the structure of text. Can interpret phrases for meaning, analyze word choice and tone, understand how sentences fit together, and assess point of view. (maps to 3 Craft and Structure Standards)
 - Integrates knowledge and ideas. Can process information in various formats or media (including numbers), evaluate arguments or claims in a text, and compare/contrast two different texts or themes. (maps to 3 Integration of Knowledge and Ideas Standards).
 - Produces effective written work. Can write in a style that is appropriate for purpose and audience, plans, revises, edits and rewrites to improve writing, and uses technology and internet to develop writing. (maps to 3 Production and Distribution of Writing Standards)
 - Uses research in writing. Conducts short or long research projects, understands research questions, gathers relevant information from credible sources, and draws on evidence to support analysis and reflection. (maps to 3 Research to Build and Present Knowledge Standards)
 - Writes arguments. Can support claims using valid reasoning and sufficient evidence.
 - Writes informative texts. Can convey ideas or complex information clearly and accurately.
 - Writes narratives. Can develop real or imagined stories using appropriate details and sequencing.
 - Writes over an extended period of time. Can routinely write for a range of purposes and audiences.
16. How important are the following mathematics competencies in your industry? (Not at all important, Somewhat important, Very important, Extremely important)
- Can apply math to solve everyday problems at home or work, make assumptions or approximations to simplify complex situations, identify important quantities in practical situations, and diagram significant relationships.
 - Attends to precision. Can communicate precisely to others, use clear definitions and reasoning, label quantities accurately, express numerical answers with appropriate degree of precision, and examine claims.
 - Looks for and make uses of structure. Can look closely to see pattern or structure, can shift perspective between details and overview, and can see complicated things as being composed of several simpler objects.
 - Looks for and expresses regularity in repeated reasoning. Can see repetitive calculations, look for methods and shortcuts, see both process oversight and details, and continually evaluate the

reasonableness of their methods.

- Uses appropriate tools strategically. Can consider and choose from available tools, use technology to help visualize assumptions or deepen understanding, detect possible errors, and identify external math resources.
- Makes sense of problems and perseveres in solving them. Can analyze variables and constraints, plan pathways to solutions, explain correspondences between words and equations, and see trends.
- Reasons abstractly and quantitatively. Can make sense of quantities, create coherent representations of problems, represent specific situations through abstract concepts or variables, and contextualize symbols or variables.
- Constructs viable arguments and critiques reasoning of others. Can use assumptions, definitions and results to construct arguments, build logical progressions, analyze situations through cases and counterexamples, reason about data, and distinguish correct logic from flawed reasoning.