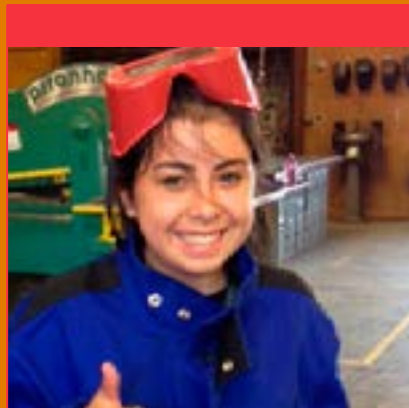




JOBS FOR THE FUTURE

Skills Mapping in the Central Valley



How Ag Prep is Linking Education to Careers

Spring 2016



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Thad Nodine is an education writer affiliated with Jobs for the Future, a Boston-based national nonprofit that provides technical assistance in support of The Wonderful Company's education programs.



High school students from Wonderful Agriculture Career Prep (Ag Prep) made sharp gains in academic performance during their freshman year (2014-15) and they're back this year, along with a new group of freshmen, taking more college courses and participating in work-based learning.

Ag Prep is a partnership in the San Joaquin Valley that brings together several high schools, community colleges, and The Wonderful Company to create fundamental changes in how students experience school. The Wonderful Company grows, harvests, and distributes healthy foods to consumers across America and around the world.

During year one, Ag Prep served some of the lowest-income and lowest-performing students in California, with these results:

- 9th graders had a **90% pass rate** for their first four college courses, which surpasses completion rates for comparable courses taken by community college students.
- 9th graders **grew by two academic years in reading and math** their first year.
- 79% of 9th graders are **on-track for meeting college entrance requirements** for UC and CSU (more than twice the rate than for similar students).

Ag Prep immerses students in a rigorous, relevant curriculum that features interdisciplinary agriculture projects, college courses, and work-based learning (including job shadows and paid internships). Students complete a college-prep curriculum and over 50 college credits in high school, which enables them to earn an associate for transfer (AS-T) degree the summer after graduation. Graduates are then able to choose

between a guaranteed, well-paying skilled career within The Wonderful Company, or entering a four-year college as a junior, earning their undergraduate degree in half the time (two years).

“The program changed my perspective on agriculture. It isn’t just about crops and stuff. It’s a whole lot more.”

— **Ag Prep Student**, Wonderful Academy

Career Prep. Students participate in one of three agriculture pathways that include high school classes, college classes, and work-based learning. The ag themes help motivate students academically, while also preparing them for careers. The pathways are:



Ag Business. Human resources, purchasing, accounting, inspecting, procurement, marketing, and selling of agricultural products.



Ag Mechanics. Machine operations, maintenance mechanics, infrastructure mechanics, and fabrication.



Plant Science. Soil conservation, pest management, irrigation, and research and evaluation.

“None of my family members have been to college. I want to do that for my younger brothers and sisters so they can see that anything is possible.”

— **Ag Prep Student**, Sanger High School

How Does Skills Mapping Fit In?

Ag Prep partners are working together to make sure high school graduates are prepared both for **college and career success**. To make that happen, high school courses need to be aligned both with the rigors of college and the skills needed for well-paying careers. On the career side, California's ag industry has become much more high-tech, specialized, and innovative over the past decades. Even its entry-level job openings now require workers to have mid-level skills in technology, math, communications, and other areas important for ag production and processing. Most high schools and colleges are behind the curve in adapting to these career pathway opportunities, so Ag Prep developed its skills mapping process to engage community college faculty with Wonderful Company executives, ensuring that course syllabi reflect actual job skill requirements.

Skills Mapping Promise.

Ag Prep's partners are using skills mapping to ensure that high school courses, college courses, and work-based learning experiences are aligned to provide students with the skills needed for well-paying careers in agriculture—and with the rigors of university coursework.

Skills Mapping Process.

Since fall 2014, high school teachers and community college faculty have been working with managers at The Wonderful Company to align educational curriculum with labor market demand in Ag Prep's three pathways. The process began by creating a Pathway Advisory Committee (PAC) for each pathway.

“Agriculture is no longer just about farming in a field. Most students don't know how much technology is necessary in modern agriculture.”

— Gladys Wotring

Director of Human Resources, POM Wonderful

Participants included:

- **High schools:** ag instructors, science instructors, program coordinators, and principals.
- **Community colleges:** ag faculty, department chairs, and deans.
- **The Wonderful Company:** managers, supervisors, engineers, directors, and vice presidents of operations.



Each of the three PACs engaged in a series of facilitated group and one-on-one conversations that have already yielded changes in high schools, colleges, and industry. The process featured these steps:

- 1. Identify the top 8–10 industry skills for each pathway.** Collect job descriptions for entry-level and mid-skilled career positions, and collect syllabi and learning outcomes for pertinent courses. Create a comprehensive list of industry skills from the job descriptions and syllabi. Select up to 10 top technical and professional skills for each pathway, and update based on committee feedback. List the courses and work-based learning experiences that provide students with each of the top 10 skills. Identify learning outcomes where available.

2. Engage participants in identifying skills gaps.

Based on the above documents, facilitate discussions about potential gaps between the top skills identified and the existing curriculum. Solicit input as to the respective roles of high school courses and projects, college courses, and work-based learning activities (such as job shadowing and internships) to ensure that the top skills are taught across the curriculum.

3. Facilitate changes in schools, colleges, and work-based learning activities.

Based on the above process, simplify and publicize the technical and professional skills identified for each pathway (for examples, see Appendix). Work with partners in schools, colleges, and industry to adjust instructional activities to address the skills gaps. Ag Prep's work in this area is summarized below.

“It has been interesting to see industry leaders place a high priority on problem-solving skills as well as technology, math, and literacy.”

— Rebecca Farley

Senior Director, Wonderful Ag Career Prep

Ag Prep Partners in Skills Mapping

High Schools

Avenal High School
Reedley Middle College High School
Sanger High School
Wasco Union High School
Washington Union High School
Wonderful College Prep Academy (Delano)

Community Colleges

Bakersfield College
Reedley College
West Hills College

Agricultural Companies

The Wonderful Company and its brands, including POM Wonderful, Wonderful Halos, Wonderful Pistachios & Almonds, and Wonderful Sweet Scarletts



Early Results of Skills Mapping

Ag Prep’s skills mapping **confirmed the importance of 21st century skills** in the workplace, including problem solving, communication, technological literacy, teamwork, organization and analyzing, and scientific and numerical literacy. The top technical skills differed significantly by pathway, but the top professional skills were very similar across all pathways. As a result, Ag Prep developed a single listing for **professional skills** in the ag industry, plus separate listings for **technical skills** in Ag Business, Ag Mechanics, and Plant Science (see Appendix).

The skills mapping process is already leading to early changes in participating high schools, colleges, and industry:

Ag projects in high schools. For the past year, high schools participating in Ag Prep have been creating new interdisciplinary projects based on ag themes. The skills maps have been used to leverage these projects to cover skills gaps in the curriculum. In 2015, an instructional coach led summer institutes to guide the teaching teams at each high school in developing robust projects aligned with the skills maps. The teams developed nine new projects for 2015–16 aligned with the skills (including the projects summarized in Table 1). The coach is providing follow-up support to teachers throughout the year.



Externships for college professors. As a result of skills mapping, Ag Prep’s Plant Science pathway developed a 14-day externship for 2015–16 to enable college professors to experience these technical and professional job skills in action, so they can be more seamlessly integrated into their coursework. During the externship, professors go into the orchards, into processing plants, and to corporate headquarters to gain first-hand knowledge of how a vertically integrated organization like The Wonderful Company manages all aspects of its operations—including processing, distribution, irrigation technologies, pest management, advanced farming practices, and sales and marketing. This innovative program affords educators a real-world understanding of the workforce challenges and skill-based needs that exist across these varied disciplines. Ag Prep is currently developing comparable externships for professors in the Ag Business and Ag Mechanics pathways.

“Hopefully our professors walk a mile in workers’ shoes and come back with mud on their boots and dirt under their fingernails.”

— **Clint Cowden**

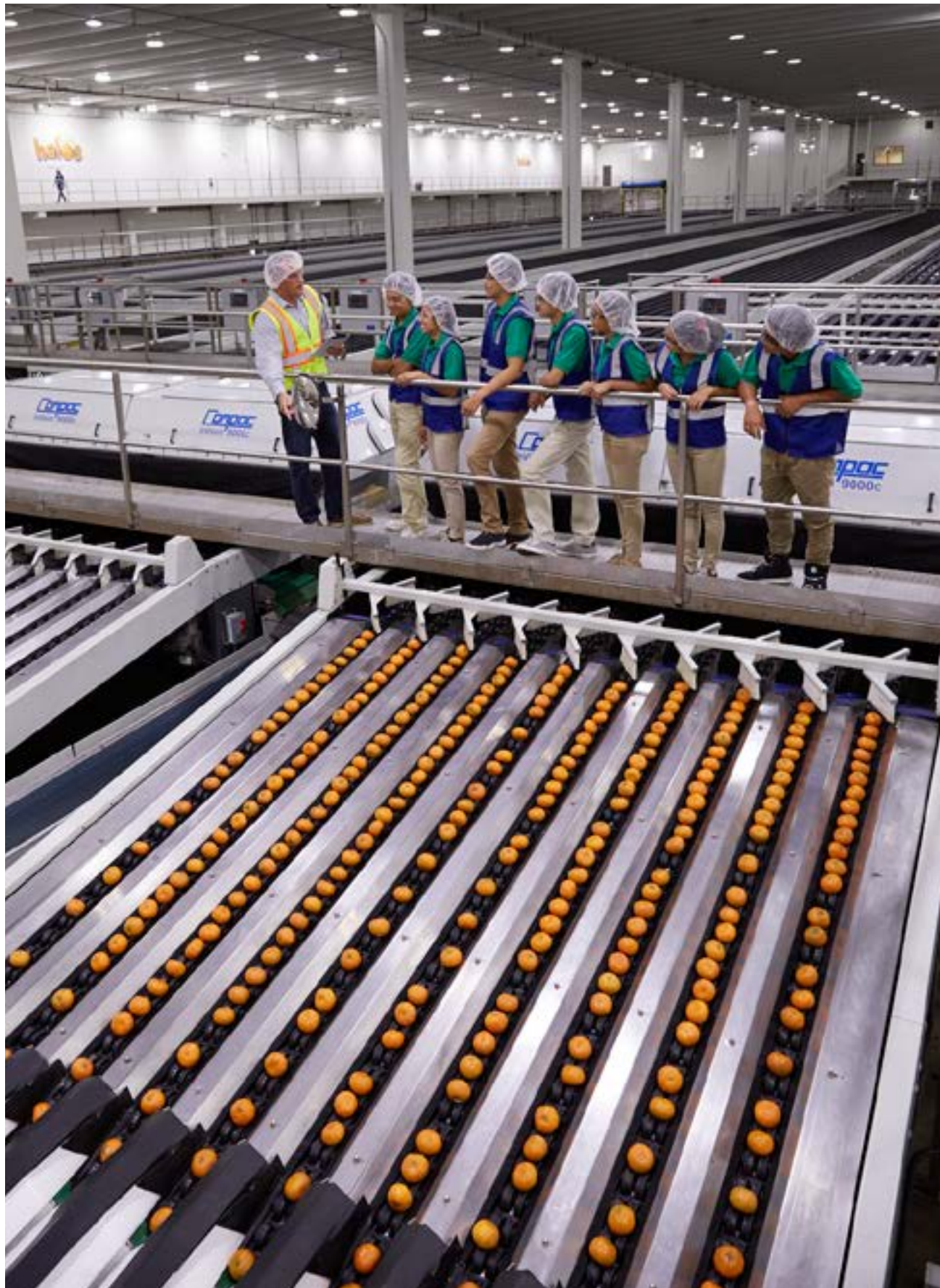
Director, Farm of the Future; West Hills College



Table 1: Sample of Interdisciplinary Projects Aligned with Skills Maps

	PS = Plant Science	AB = Ag Business	AM = Ag Mechanics
High School	Project Title	Technical Skills	
Avenal	GMOs, yes or no?	<p>PS 1 Applying principles and techniques for growth, fertility, and nutrition of plants and plant products.</p> <p>PS 5 Writing and reviewing reports for plant production and management.</p> <p>PS 7 Using computers/technology to benefit plant production and management.</p>	
Reedley Middle College	How do you craft an effective pitch to a potential investor?	<p>AB 1 Using math to analyze and present business information, solve problems, and make decisions.</p> <p>AB 5 Making good business decisions in light of the global market and economy.</p> <p>AB 6 Using the principles of agribusiness to purchase or sell products and services.</p>	
Sanger	How can you power a small-scale farming system using alternative energy?	<p>AM 2 Troubleshooting equipment and systems.</p> <p>AM 8 Modifying and fabricating parts and equipment.</p> <p>AM 9 Applying math to practical situations or problems.</p> <p>AM 10 Using technology to make work more effective and efficient.</p>	

Numbers refer to skills identified in the skills maps at the back of this document.



Job shadowing at The Wonderful Company.

The Wonderful Company is providing job shadowing experiences for all 200 sophomore students during the 2015-16 school year, and the skills maps have been instrumental in aligning job shadowing activities with the educational curriculum. According to Noemi Donoso, Senior Vice President at Wonderful Education, “When we first began talking to executives about job shadowing, it was difficult to identify the areas of focus we were seeking. Now we show them the skills maps and it’s a different conversation. They look at the skills that we prioritize and immediately start creating a list of their superstars that embody those skills in action.”

Next Steps

In 2016, Ag Prep is building on the skills mapping by expanding interdisciplinary ag projects, externships for college professors, and job shadowing activities. In addition, the three advisory committees (in Ag Business, Ag Mechanics, and Plant Science) have already begun to create competency rubrics for each of the top skills that they identified last year. The rubrics will articulate clearly what students should know and be able to do to show proficiency in each skill. In turn, this will help instructors align assignments and activities to build toward those proficiencies. Stay tuned!

“I’m hoping that we’ll start seeing students who go through this curriculum. I want them to come through our doors and get hired.”

— **Arnold Viduya**

Farm Accounting Manager, Wonderful Halos



Jobs for the Future

Jobs for the Future works to ensure economic opportunity for all. Our innovative college and career pathway models give those struggling to succeed access to needed knowledge, skills, and credentials. We partner with education, workforce, and business leaders to understand the labor market and design systems to sustain a pipeline of skilled workers. We advocate with policymakers for state and federal policies to support this work.

The Wonderful Company.

Paramount Agricultural Companies is a group of privately owned, affiliated businesses that comprise the largest farming operation of tree crops in the world. Paramount Farms is the largest vertically integrated pistachio and almond grower and processor in the world. Paramount Citrus is the largest integrated grower, packer and shipper of fresh citrus in the U.S. These operations, which are located in California's Central Valley, are also affiliated with the worldwide leader in fresh California pomegranates and various pomegranate-based products. Paramount's products can be found in the produce aisles of grocery stores nationwide under popular retail brands, including Wonderful Pistachios, Wonderful Almonds, Wonderful Halos and POM Wonderful. Paramount is part of Roll Global, a privately held, \$4 billion international company that offers healthy, iconic brands for healthy lifestyles. For more information, go to www.roll.com.

Wonderful Education Programs

Paramount Education Programs (PEP) is an innovative educational program that is driving positive change in California's Central Valley. As a philanthropic extension of the Paramount Agricultural Companies, PEP funds a host of college and career readiness programs to promote opportunities for young people in California's Central Valley. PEP initiatives include college and career readiness, college scholarships, school grants, summer school programs, arts education, early childhood programs, teacher development and parent engagement. PEP coordinates directly with the Paramount Agricultural Companies to offer a sequence of rich work-based learning experiences for all Paramount Agriculture Career Academy students, including paid internships.

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