

AJAC Apprenticeships Return on Investment

August 2020



Workforce Recruitment and Diversity

“As an employer we use many different strategies to find and support workers to develop new skills. Apprenticeship is one of the best. That is where AJAC steps in. Supporting apprenticeship is something that sets a company apart as one that promotes worker learning and advancement.” *Employer*

“A company’s workforce should try to mirror the community. We are trying to build ours to include more diversity. We know this requires we market earlier to younger audiences, and our partnership with AJAC helps us to do that.” *Employer*

“Students don’t always or often think of manufacturing as a career they could pursue. This means we should be getting to schools earlier, sending different pictures and stories out to the community about this industry, and much more. By working with AJAC we know that more high school students hear about manufacturing. We probably should be starting that in elementary school.” *Employer*

Women do every bit as good work in manufacturing as men, and a lot more would do well in these jobs but they are not really presented very strongly in high school as an option or an opportunity. *Apprentice*

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AJAC Apprenticeships Return on Investment

1. Background

The Aerospace Joint Apprenticeship Committee (AJAC) has come a long way since first launching in 2008 with an investment from Washington State to skill-up the aerospace and advanced manufacturing workforce through registered apprenticeship. Today AJAC serves approximately 400 apprentices per year at about 300 companies, and partners with twelve community colleges to ensure that all apprentices are receiving college credits while working towards a journey-level certificate. AJAC also serves approximately 150 adult job seekers and opportunity youth per year in its Manufacturing Academy, a 10-12 week pre-apprenticeship program that prepares individuals to enter the manufacturing workforce.

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total costs) of the project is financed by leveraged resources from South Seattle College and AAI Partners. PATAM is an equal opportunity project and auxiliary aids and services are available upon request to individuals with disabilities. This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

This report explores the perspectives of AJAC employers and apprentices from five companies, Aero-Plastics, American Structures & Design, Beckwith and Kuffel, Machinists Inc. and Metaltech about the costs and benefits associated with apprenticeships. These companies have all had multi-year relationships with AJAC, and to date have employed a total of sixty workers enrolled in AJAC apprenticeships. The companies participating in this study generously donated their time to engage staff and apprentices in interviews. Many company representatives have participated in AJAC graduations and events, and as tour guides for AJAC students.

2. Research Methods

The report provides a snapshot view of the work underway, and offers insight into how AJAC apprenticeships are working. The report methods include the following:

- An independent contractor, Business, Government, Community Connections, conducted in person employer and apprentice

Company Connections

Because of the involvement in AJAC the company is much more engaged in the high schools and reaching out to high school students. We also are better known to community based organizations too.

Employer

I see the benefits of being aware of what is going on in colleges and in the schools. By building connections to even one student means you are reaching much more than that one. Word of mouth is powerful.

Employer

I go to my old high school and career fairs representing the company. I am younger so it shows high school students that manufacturing is not just for middle aged men. I always tell them, "Look, I have only been at this a couple years and I bought a new car, and I actually like my job, and I am always learning something and making something." *Apprentice*

interviews at five different companies. Interviews averaged an hour in length.

- Interview findings were confidential. Companies were assigned labels (A, B, C, D, E) to ensure confidentiality. Apprentices are not named. The companies reflected the diversity in product and size of many of AJAC partner companies. They included small, medium and large sized companies, and included producers of stainless steel products, industrial equipment supplies, precision machining, machined metallic and non-metallic products, custom injection molded products, and metal fabrication products and many other products.
- Interview questions were reviewed and approved by AJAC in advance. They were focused on documenting employer and apprentice perceptions of the main challenges and successes associated with apprenticeships, and designed to garner recommendations for strengthening AJAC's work.
- Interviews were conducted in person, using open ended comments. Examples pointing to benefits of apprenticeships were coded, sorted and synthesized across companies. Responses of apprentices and employers engaged in the same company were documented to draw attention to areas where employers and apprentices perspectives were aligned or divergent within and across companies. Notably, the absence of an X on Table 1, which shows the Return on Investment of apprenticeships does not indicate that an area was not regarded as a benefit, but rather that it

did not fall into the main areas of benefits noted by a company, and/or apprentice. Interviews were conducted individually, with the exception of one company where the Human Resources Director also attended each interview.

- Return on Investment challenges were documented, coded and summarized in narrative form.
- Fifteen different company representatives were interviewed, including chief executive officers, service managers, shop managers and human resource specialists in order to garner a more nuanced and multi-vantage point view of the apprenticeship-related work underway.
- Nine apprentices who were employed by the five selected companies were interviewed, including those who represented different genders, ethnicities and ages, and those who were in different years (Year 1, 2, 3, etc.) of their apprenticeship. Two had completed AJAC's Manufacturing Academy, or other AJAC programs prior to entry, and two had completed the AJAC apprenticeship. One served later as an AJAC instructor. Apprentices included those enrolled in AJAC Machining, Tool & Die Maker, Machinist, Precision Metal Fabrication, Production Technician Apprenticeship and Industrial Maintenance Technician apprenticeship programs.
- AJAC staff discussed key findings, and shared their perspectives regarding the Return on Investment of their apprenticeships and other information emerging from the interviews.

Workforce Readiness

I think being in an apprenticeship makes you learn faster – you hear information from your teacher, other people in the class, and learn about new equipment and processes that other companies are using or exploring. Makes you more likely to suggest something new at work. *Apprentice*

Apprentices are used to deadlines in school. This carries over to work too. I just think overall apprentices might have better work habits, and be more committed to being on time, meeting deadlines and focused on learning. *Employer*

We learned a lot about being efficient and following protocols. *Apprentice*

My supervisor encourages me to think how can we do this faster or differently. I am supposed to think innovatively. *Apprentice*

In my experience apprentices are more likely to have a good work ethic and meet deadlines. *Employer*

Workforce Knowledge, Skills and Performance

Apprentices may be on a learning curve, but I really appreciate that they can take what they learn in class to the worksite and what they encounter as a problem in the worksite to their class. The skills they are learning are a good foundation. We know that in the long haul having apprentices increase the overall productivity of the company because we are creating an environment focused on skill advancement. *Employer*

I like being an apprentice because we learn things in school that we teach others in our company and we learn things from people in our company that we share with other peers. Cross training is something too that when we get better at our job can save a company money. *Apprentice*



3. Key Findings

Return on Investment Benefits of AJAC Apprenticeships - Employer Perspective

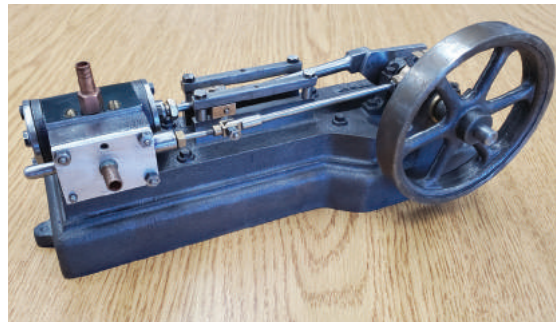
- **Overall employers and apprentices appreciate and highly value their work with AJAC.** Their comments about the benefits of AJAC apprenticeships are summarized in Table I. Examples of benefits fall into eight main areas: Workforce Recruitment and Diversity, Company Connections, Workforce Readiness, Workforce Knowledge, Skills and Performance, Workforce Retention, Workforce Cost Savings, Workforce Culture and the Social Return on Investment to Apprentices. Representative examples of direct comments made by employers, and apprentices in each of these areas are presented throughout this report.
- **AJAC staff is described as professional and well-informed about the needs of companies.** Staff was described by employers as knowing the companies that they partnered with, and for being aware of the company environment and culture, hiring and advancement practices and opportunities. They were described as qualified, dependable, knowledgeable, friendly, adept and responsive at facilitating worker engagement in apprenticeships.
- **AJAC apprenticeships showcase and underscore company commitment to worker training.** AJAC apprenticeships were identified as being a vital part of one company's commitment to "lifelong learning" Another employer reported that the apprenticeships are "one of the proven effective tools in our employee assistance program tool box. "
- **Many employers see the cost savings benefits of hiring apprentices, especially in the area of recruitment.** They also appreciate the frequent messaging during training that apprentices receive about the costliness of worksite errors and mistakes, and two employers felt that this messaging translated to error reductions and related cost savings on the worksite.
- **AJAC Apprenticeships contribute to cross training and worker performance.** Apprenticeships were described as being very helpful for building the skills of workers, creating a culture of learning and teaching, promoting job retention, and increasing worker productivity.

Return on Investment Benefits of AJAC Apprenticeships - Apprentice Perspective

The nine apprentices reflected on their experience with AJAC. Their comments reveal that:

- Two apprentices initially heard about the apprenticeship from other co-workers; two from company human resource staff; one from AJAC flyers posted in company common areas; one from high school career center staff; one from neighbors or friends; one from a relative who worked for a manufacturing company and one from the community college they were attending.
- 100% would recommend apprenticeship to others as long as they had time and “hopefully”, as one apprentice noted, “Did not have a second job, as the combination of one job and apprenticeship instruction could be overwhelming.”
- Overall, all thought the apprenticeship training was good, although PowerPoints were sometimes described as boring and needing to be updated.
- Six apprentices really appreciated the friendships, peer relationships and external contacts they made with other apprentices and three said these relationships directly influenced their knowledge of other company practices, and opportunities for advancement.

- Most liked the training and mentoring they received, and described the best attributes of a mentor/supervisor as someone who shares their experiences and mistakes, occasionally does tasks side by side with them, looks for opportunities for the apprentice to teach others, provides encouragement and has sufficient time to train, motivate, advise and support apprentices.
- Apprentices were proud of their work and what they were learning. One of the apprentices brought a steam engine (pictured in the photo) which he had made in his spare time to his interview and talked about how he liked being creative and putting his skills to work in innovative ways. Many apprentices, including this young man, said that they liked telling their friends and family members the different things that their company made.



Steam Engine made by AJAC Apprentice

Workforce Retention

I think apprentices have better retention because the company is making an investment of time and money and they are invested in the training. *Employer*

I feel obligated in a way to stay with this company because they paid my tuition and told me about the apprenticeship opportunity. *Apprentice*

Workforce Cost Savings

There is no doubt that being involved in apprenticeships helps draw attention to the company, and assists in reducing recruitment costs. I think it also gives workers incentives to develop skills that they can use on the worksite. Skills that may save us some money because they make fewer mistakes or go faster than other comparable workers who are not in apprenticeships. *Employer*

Apprentices market the program at job fairs and in the community. We show that young people like being an apprentice. When people hear the word it carries more meaning than saying you work somewhere as a machinist. *Apprentice*

Employer Observations about ROI Challenges

Employers shared a few of the challenges they experienced.

Save Ahead for a COVID Day: Four employers identified the need for AJAC to focus more on financial education for younger apprentices so that they are prepared for a “COVID” day or other circumstances that effect their experiencing work reductions of layoffs.

Worksite “Rules”: Three employers noted that training programs need to enforce to students the idea that what they learn in class is important, but may not be applicable to, or transferable to the worksite. One employer said, “The worksite rules and training will not necessarily mirror the classroom.”

Align Worksite Training with Apprenticeship

Instruction: Employers requested that they receive additional information about what apprentices are learning in class, so that they can supplement it with training on the worksite, or even potentially ask apprentices to share with other co-workers what they have learned.

Wage Disparities: Two employers said that wage disparities between apprentices resulting in some making different wages – at times more, and at times less, than other comparable non- apprentice workers.

Worker Poaching: Three employers noted that workforce poaching is sometimes an issue. One employer said, “When you have an apprentice there is always a chance they will hear from others in class about better companies to work with. This is reality and can be a pro or a con but something we know happens.” Another employer said, “It is on us to create an environment that earns loyalty. And honestly as long as we have a dependable skilled worker funnel and there is some reciprocal movement at times that may be okay. Our company is a funnel to other companies that have more diverse jobs and advancement paths.”

Supervisor/Apprentice Match: Apprentices take time to support and train. Almost all the plant supervisors were supportive of apprentices, with the exception of one who said he was not sure that the effort was worth it because it took a long time to train them. Three noted that one of the challenges is finding the right supervisor/ apprentice match, though one added, “Apprentices need to be prepared to take leadership from ANY style supervisor.”

Workforce Culture

Because AJAC gets our culture they try to steer the folks over that will like working here, and they also know we want to diversify. *Employer*

Apprentices are usually close allies on the worksite. Year one apprentices turn to those with more skills and advice too. *Employer*

Social Return on Investment

Before I first entered one of AJAC’s manufacturing programs I was pretty irresponsible. Hated school. Had debts. Things have totally shifted. I am caught up on bills, and getting ready to get a place. I am a lot healthier. *Apprentice*

I had done some stupid things. Was smart but not focused. Wasted three years after getting out of high school. Got lucky. Got in to a different manufacturing company. Still was not really grown up. Now I am on a better path. This is an industry where people see pride in their work, and when you are around that you change. I point out the work we are doing to my family when we drive around. *Apprentice*

Table 1:
Apprenticeship Return on Investment (ROI)

Key respondents said that the ROI associated with apprenticeship helped their company in the following areas

	Company A	Company B	Company C	Company D	Company E	Apprentice
Workforce Recruitment and Diversity						
Increase the skilled worker pipeline	X	X	X	X	X	X
Increase diversity (ethnicity) of the company			X	X		X
Increases diversity (gender) of the company			X			X
Cultivate talent sources that have long been overlooked	X		X			
Challenge “old school” myths about manufacturing companies and careers, through different messaging and marketing		X	X			X
Develop a “diverse and younger” face for the company at job fairs, and high school visits	X	X			X	X
Company Connections						
Improve employer connections with K-12 and the community by creating awareness of the companies training investment	X		X	X	X	X
Increase employer connections to community based organizations, high schools, labor unions, community colleges and workforce boards	X	X			X	
Develop a deeper understanding of the way students, parents, and teachers think about manufacturing, and provide an opening for employers to dispel myths		X	X		X	X
Build alliances and a healthy dose of competition on the ground level as apprenticeship students who work in different companies bond and share skills and information		X	X	X		

	A	B	C	D	E	Apprentice
Workforce Readiness						
Build a workforce that was better equipped to meet deadlines		X				X
Build a workforce that adapted faster to new technologies	X		X		X	X
Build a workforce that because of “book learning” had new ideas about how to diagnose problems		X	X			X
Workforce Knowledge, Skills and Performance						
Increase overall productivity of company	X	X	X	X		X
Enhance employee productivity	X		X		X	X
Increase innovation because apprentices take what they learn in class and apply these strategies in their jobs		X		X		X
Increase the interest of workers who are assigned to train apprentices in advancing their own skills			X			X
Increase overall worker focus on training and learning	X	X	X	X	X	X
Increase knowledge of best practices used at other companies			X		X	X
Promote cross training of workers in skills that they learn in apprenticeship classes	X	X	X	X		X
Workforce Retention						
Increase employee retention because of the company’s investment in education	X	X	X			X
Reduce turnover	X		X		X	X

	A	B	C	D	E	Apprentice
Workforce Cost Savings						
Reduce errors and mistakes		X	X			X
Waste fewer materials due to mistakes on the worksite	X		X			
Reduce onboarding costs		X			X	X
Reduce the cost of hiring staffing agencies; attending job fairs; advertising job openings and other hiring-related costs	X	X			X	
Promote worker movement between jobs, potentially reducing the need to hire for certain positions	X		X	X		
Workforce Culture						
Build a workforce that was a good fit for the firm's culture	X			X		
Build a workforce that can be trained to adapt to the company culture		X			X	
Build a more cohesive culture because apprentices, bond to each other for advice and support	X				X	X
Social Return on Investment						
Lead to a reduction in worker reliance on subsidies			X			X
Promote and build healthy practices and safety of workers	X		X		X	X

4. Summary Observations

The relationships AJAC has built with employers are impressive and long lasting. These relationships are essential to building, growing and sustaining strong apprenticeship programs. Employers and apprentices clearly see the value of investing in apprenticeship opportunities.

The words of one apprentice ring strong: “Apprenticeship is the channel I needed to get the right training. And it is the only way I could afford to return to school. To me, combining paid work, with classroom training and on-the-job training was the best possible solution.”

The interviews suggest that the education, workforce, business and government partnerships that support AJAC apprenticeship are effective. These efforts help companies to build a talent pipeline and workforce. They also may play a pivotal role in reducing turnover costs, and increasing employee retention.

In order to capitalize on their apprenticeship work to date AJAC may want to enhance its efforts to:

- Share updates of what apprentices are learning so that employers can supplement this training on the worksite should the opportunity arise, and potentially identify areas where training is not occurring, but needs to be incorporated.
- Incorporate financial education information into the apprentice training to help apprentices be

more prepared for circumstances that may help them when there are economic downturns or unforeseen events such as those precipitated by COVID-19. They may want to be proactive and accompany these strategies with tactical exercises that identify the transferable skills that workers have so that they can be more agile if they need to find another job, but still want to utilize the manufacturing skills that they honed.

- Report regularly to employers about the status of the company’s apprentices, noting the number of apprentices and progression status of apprentices who are currently engaged. As one employer said, “All I need is data-embedded sound bites, and it could be particularly helpful to have different communication materials that work best with different audiences. My main three are chamber of commerce types of folks, high school students and manufacturing colleagues. These are different audiences that require different messages. For example, with the high school age kids it would be good to report how many young people are engaged in apprenticeships. With business folks it is more of a skilled worker/productivity story, and with manufacturing colleagues more of an innovator/ emerging industry story. That way I would do a better job of promoting apprenticeships the right way with the right folks.” The employer interviews suggest that AJAC status reports need to be distributed to employers who work in different parts of the company, including human resources, shop management, and at the

senior executive level, as all play a critical role in promoting AJAC apprenticeships.

Lastly, the comments of employers and workers suggest that AJAC apprenticeships contribute to the diversity and productivity of the workforce, and to the promotion of a corporate culture which promotes continuous learning and innovation.



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