

Gaston College
Promoting Apprenticeship Consortia for
Technology (PACT)
Project Guidebook and Lessons Learned
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Abstract

This guidebook shares the major lessons we have learned in creating an advanced manufacturing apprenticeship consortium. No company names or names of other entities than Gaston College are given to maintain generality. After briefly discussing the importance of apprenticeship and the process that led us to create a consortium, this guidebook breaks down what we have discovered as ten lessons learned. The first lesson is the importance of having the right internal and external teams. It tells what we have found to be the composition of the core internal team, the internal support team, and larger consortium and related entities. The second lesson mainly deals with the advantages we have found in having the apprenticeship registered to the college and how that has given us the ability to be flexible and responsive to industry needs. Lesson three mainly deals with the importance of the Success Coach and the coach's role in the program. Lesson four identifies areas where we found additional training was required. The fifth lesson describes some of the project modifications we have experienced due to changes in the business climate. Lesson six reports some of the obstacles we faced in the process of creating the consortium and how they were dealt with. The seventh lesson discusses what parts of recruitment selection must be done by the companies and which parts the college can and should do. Lesson eight reports some things we have done to minimize the administrative burden on the companies. The ninth lesson shares the qualifications we use for apprenticeship candidates. The final lesson discusses how we have designed and plan to redesign related instruction for the apprenticeship jobs. Finally, there is a list of suggested steps for creating an apprenticeship consortium based on the PACT model.

Introduction

The Promoting Apprenticeship Consortia for Technology (PACT) Project resulted in the creation of Apprenticeship 321, a consortium of 12 advanced manufacturing companies featuring six apprenticeship job titles registered to Gaston College. This guidebook describes the process we evolved as we created this consortium and the important lessons we learned along the way. While PACT focused on advanced manufacturing, this model could be applied to many other fields such as information technology or health care. Our hope is that the lessons we have learned and the approach we have developed will encourage others to pursue the benefits of an apprenticeship consortium.

The Case for Apprenticeship

Apprenticeship has long been associated with the skilled trades, but the need for technically skilled workers has expanded it to areas such as advanced manufacturing. Apprenticeship is valuable to employers because it provides them with workers whose training and education is matched to their needs; it is valuable to apprentices because they receive cost-free education and training while remaining employed. It is valuable to society because it lowers unemployment and boosts the national manufacturing base. Apprenticeship is attractive to community colleges because it boosts enrollment in technical courses and helps colleges fulfill the common mission to provide well-educated workers for the local economy.

Apprenticeship has proven to be very successful in Europe but has had a much more limited role in the United States. In Europe, especially in Germany, a strong partnership between secondary schools, post-secondary schools, and industry has created a strong system that prepares young people for skilled jobs in industry. In the U.S., the culture places the responsibility for obtaining a technical education on the individual, who must then seek a job and learn the specific skills needed to succeed at it. Apprenticeship represents a change in that culture. Without the dedicated system in place that has been created in Europe, there is a need to create an “Americanized” version of apprenticeship. The clear benefits of apprenticeship make it worthwhile to attempt to do so.

While individual company apprenticeships are helpful in boosting the manufacturing base, a consortium of companies that use the same related instruction and job titles (although the on-the-job training is tailored to their specific needs) is better. A consortium means more apprentices are taking the same classes. When the number of enrolled apprentices is large enough, the college is able to schedule classes specifically for the apprentices at times convenient to the companies. Companies in a consortium are also able to share best practices and learn from each other.

History

Gaston College is an open-door public community college serving Gaston and Lincoln counties of North Carolina. The mission of the College is to promote student success and access to lifelong learning through high-quality, flexible, affordable, and comprehensive educational programs and services responding to economic and workforce development needs. Accredited by the Southern Association of Colleges and Schools, it is the eleventh largest (out of 58) in North Carolina Community College System. The college serves the diverse educational needs of Gaston and Lincoln Counties with over 100 programs, including associate degrees, diplomas, and certificates in arts and sciences, business and information technology, engineering and industrial technology, and health education. Also, the College offers a wide range of other programs, including basic skills, continuing education, and workforce and economic development training. The college enrolls over 18,000 students each year, around 5000 of which are enrolled in curriculum programs. The Engineering and Industrial Technologies division of the college offers technical curriculum programs in Computer Engineering Technology, Civil Engineering Technology, Electronics Engineering Technology, Mechanical Engineering Technology, Mechatronics Engineering Technology, Nuclear Technology, Broadcasting and Production Technology, Air Conditioning Heating and Refrigeration Technology, Architectural Technology, Automotive Technology, Computer Integrated Machining Technology, Industrial Systems Technology, and Welding Technology.

Apprenticeship has been a topic of interest for industry in Lincoln and Gaston counties of North Carolina (the Gaston College service area) for several years. The successful Apprenticeship 2000 program, a consortium of German-owned companies, is centered in nearby Charlotte, NC. Their model includes an extensive training facility at one of the companies and employs a master craftsman who oversees training. Students also take manufacturing technology courses at another community college. Apprenticeship 2000 was not accepting new members, so local employers considered setting up a similar program. Until 2013, there was much talk but little action toward establishing an apprenticeship consortium.

A German-owned company near Gaston College decided to be proactive and begin their own apprenticeship program with hopes of eventually expanding it into a consortium. The company hired a consultant in early 2013 to assist them and determined that the job titles most appropriate to their needs were Chemical Operator and Industrial Machinery Mechanic. After contacting several local community colleges to discuss the formal training portion of the program, the company decided to use Gaston College. Representatives of the company and the consultant met with the Engineering and Industrial Technologies division and chose courses that would be appropriate to support their programs. On-the-job training checklists were created with the help of the consultant and the programs were approved by the state apprenticeship agency.

The company began recruiting for the program in spring 2013. They initially approached first-year students at Gaston College and another community college, which resulted in 25 applicants. Through interviews, they chose eight to begin a six week paid internship at the plant. The interns were rotated through various departments and evaluated by supervisors in each. They chose four people to enter the actual apprenticeship programs in fall 2013, three of the interns and one existing employee. They had apprentices work 32 hours per week and attend classes an average of 13 hours per week; work schedules were adjusted to accommodate class times. They paid a competitive wage that was increased on a sliding scale as they were signed off on job proficiencies on their checklists. They had to obtain a grade of B or better in their college classes. The company paid for their tuition, fees, and books. When they completed their programs, they were to be awarded certificates from Gaston College. This was the highest academic credential possible since their formal courses do not include humanities and social science courses, which are required for diplomas or associate degrees.

The company began to recruit for a second round in spring 2014. This time they focused on high school seniors who would graduate in June. These four students completed the internship program and entered the apprenticeship program in the fall semester.

Efforts began to expand apprenticeship programs further. On August 6, 2014, Gaston College hosted a forum attended by 10 manufacturers who had expressed interest in having an apprenticeship program and being part of a consortium. Several other companies also indicated interest but were unable to attend. College representatives made numerous visits to local companies to explain apprenticeship programs and how we might collaborate with them by providing the related instruction component. The NSF ATE project was proposed to expand these efforts and provide dedicated resources to support apprenticeship consortia. Gaston College was awarded the grant and began work on the project in August 2015.

The initial concept was to use the already established apprenticeship program as a pilot for a larger project that would promote the creation of two apprenticeship consortia, each focused on one of the two jobs that were already developed. The idea was that each company that joined would create its own registered apprenticeship program with the help of a consultant funded by the grant. The companies would “own” the consortia with Gaston College having a supporting role. As described below, that concept was modified to create a single consortium with multiple jobs all registered to the college. The details of how the current program was developed and is administered are framed in the important lessons learned as the project progressed.

Lesson 1 – Having the Right Team and Support Structure is Key to Success

During the pilot apprenticeship program, the relationship was directly between the company and the Engineering and Industrial Technologies (E&IT) division at the college. When the idea to expand into one or more consortia arose, we (E&IT) realized we did not have the broad contacts with local industry that would be necessary to know who might have expressed interest in apprenticeship. We enlisted the help of our Economic and Workforce Development (EWD) division and from that time, representatives of the two divisions have formed the core of the apprenticeship team at the college. When the grant was proposed the Principle Investigator and grant writer was the Associate Dean of E&IT and the Co-PI was the Director of Corporate Education from EWD. The initial team were the Dean and Associate Dean of E&IT, the Director of Corporate Education, and the consultant (who was hired using state support funds for technical education in the period leading up to the grant). The current team includes the same dean and associate dean, the Program Coordinator for Manufacturing Technology (a program closely associated with the apprenticeship program), the Vice President for EWD, the Associate Vice President of EWD, the Apprenticeship 321 Administrator, and the Success Coach. The Administrator and Success Coach are both part of EWD. When the grant project ended, administrative responsibility for Apprenticeship 321 passed to EWD; the idea was that this would make it easier to expand apprenticeship to other fields that involved other academic divisions rather than have it centered in a single division. The Apprenticeship 321 team met once a week during each semester for a year preceding the project through the first year and a half of the project. Now it meets every other week.

EWD works regularly with the industries in the college's service area and has been an invaluable source of information on which companies had either expressed interest in or were likely to have interest in apprenticeship. E&IT has extensive knowledge of the technical programs at the college and the ability to design practical related instruction in support of apprenticeship.

Beyond the core members of the apprenticeship team, several support members meet with the team as needed. The team realized early in the process that for the project to be a success, interactions by companies and their apprentices with the college would need to as smooth as possible. The Assistant Registrar of the college is a support member. She is very familiar with the program and personally assists apprentices in the application and registration process. Each company knows who she is and that apprentices should ask for her by name when registering. Apprentices have a unique code in the college computer system that prevents them from being accidentally purged from enrollment when this is done en masse each semester. Another support member is a representative from the Sponsorship Office. Employers must send a sponsorship letter each semester so that apprentice tuition, fees, and books are billed to the employer. She ensures this process goes smoothly. The Director of the college

bookstore supports the program through ensuring apprentices receive their textbooks smoothly. The Director of the Learning Center is another support member who ensures apprentices have access to tutoring when needed. The Director of the Placement Office supports the program by facilitating the application process. Companies post apprenticeship job openings on the college job web site. She trains company representatives on how to do this and ensure prospective apprentices have access to the site. The final support member is the Director of the Basic Skills Plus program, which includes programs such as Adult High School and GED. She ensures students completing this program are aware of opportunities for them in the apprenticeship program. Another support member from outside the college was our regional representative from the state apprenticeship office.

Beyond the core team at the college, the right members of the larger group are important to success. Since the inception of the project, we have held quarterly meetings. Attendees include representatives of company management, human resources, and mentors; representatives of the Gaston County and Lincoln County Public School Career and Technical Education division; and representatives of economic development entities from both counties. At these meetings, the college shares news and plans for the program and gets feedback on any problems that have been encountered and any needs the members have. Now that the consortium has grown to 12 members, we have begun steps to create a smaller advisory committee from within this group to allow for more focused communication about the program.

A final important component is support from college administration. The addition of the Vice President for EWD to the team has given the program high-level visibility and increased credibility. The Vice President for Academic Affairs and the Vice President for Student Affairs and Enrollment Management have supported the program less directly. The President of the college has strongly supported the program. She has allowed us to hire the Success Coach when the grant expired and been supportive of alternate means of funds to support the administrative costs of program into the future. We have added a work-based learning component that will generate new funds from the state starting in the 2019 fiscal year. The President has also supported the program by speaking at important events such as the kick-off celebration and apprenticeship graduation ceremonies.

Lesson 2 – Have a Flexible Approach Based on Industry Feedback

The initial approach was to have two consortia based on the existing two jobs. Each company would establish and maintain its own registered apprenticeship program. Grant funds were budgeted for a consultant to help each company create its registered program. This seemed reasonable and necessary based on the approach we had taken before and on other apprenticeship consortia we were familiar with. However, as we met with companies to promote the idea, they indicated a need for more than the two jobs we were proposing. The consultant identified the most appropriate titles for the jobs they needed were Machine Set-up Operator and Tool Machine Set-up Operator. It

became clear that one consortium per job would quickly become unworkable. Besides this, a large number of companies were interested in joining the project. Almost none of them had any experience with apprenticeship. It became clear that the initial approach would need to be modified.

The solution became apparent when we learned from our state apprenticeship office representative that it was possible to register the apprenticeship job to the college itself. Then companies could sign on to the jobs they needed as members of our apprenticeship. This approach has several advantages:

- It makes it possible to have a single consortium with multiple jobs;
- It makes it easier to add jobs as the need arises. We have added two new jobs in the last year, Tool and Die Maker and Mechatronics Technician;
- It also reduces the amount of expertise on apprenticeship each company needs to participate;
- It centralizes many of the administrative tasks to the College; however, companies still have to track on-the-job training hours, provide mentors to work with each apprentice, and abide by the rules of the apprenticeship agreement;
- It makes it possible for smaller companies who do not have the resources to administer their own program to participate.

The cost is the need for an administrator of the program at the college. To accommodate this change in approach, we parted ways with the consultant and redirected funds to a part-time (in addition to her other college duties) administrator; we also increased the hours for the part-time Success Coach. The consultant was no longer necessary since there was no need to create a new program for each company. The establishment of the apprenticeship program at the college and the addition of new jobs could be done with the help of the state apprenticeship office representative.

This approach has worked well. College ownership of the program has given us the ability to make sure procedures are in place and followed, call meetings, provide mentor training, and to create related instruction based on member feedback. The program is able to add companies simply by having them sign on to the existing agreement rather than create something new. Apprenticeship jobs can be added or deleted as necessary. The model of an apprenticeship registered to a college can easily be adapted to other colleges and to fields other than advanced manufacturing.

Lesson 3 – Build in Strong Student Support

While the first apprentices in our pilot program came from existing community college students, we recognized that in the future new apprentices who were less prepared academically would become apprentices. Recent high school graduates may need help acclimating to and navigating postsecondary education programs. Some companies may wish to enroll incumbent workers who had not been in school for many years. We knew that companies were investing time and money on apprentices that would be

wasted if they did not succeed academically. To provide the kind of focused attention and support we felt apprentices would need, we hired a Success Coach.

The Success Coach maintains regular contact with each apprentice. She meets with them in person at least twice a semester, more often if there are issues. If students are having academic difficulties, she refers them to the college Learning Center for tutoring. She has access to their transcripts so she knows how well they have performed in the past. She also contacts each of their instructors in case there are problems the apprentice is not reporting. She contacts each apprentice's mentor to see if there are any job-related issues that might be helped through college resources.

In addition to the Success Coach, each apprentice has an academic advisor. The advisor creates a detailed Plan of Study that lets the apprentice and the company know what classes they will need to take each semester. The advisor meets with each apprentice during the registration period to make sure the plan is still accurate and up-to-date.

Although some apprentices have left the program due to various personal issues, none have left due to academic failure. This has been made possible through the strong support built in to the program.

Lesson 4 – Identify and Provide for Needed Training

The creation of the consortium has been a learning process for both the college and the companies. One important requirement of a registered apprenticeship is that each apprentice have a company mentor to guide on-the-job training. Ideally this would be a Journeyworker in their job title, but any person skilled and experienced in the job they are learning is eligible. Early in the program, we began to receive feedback that the newly appointed mentors were unsure of their roles and responsibilities. To address this, we found a consultant who was experienced in providing mentor training and hired them to do a half-day session with company mentors. The next year, we repeated the training with a new mentor session in the morning and refresher session for returning mentors in the afternoon.

Lesson 5 – Be Able to Adapt to Changes Caused by External Economic Factors

Apprenticeship 321 has two types of companies: direct members who sign on to the apprenticeship program registered to the college and allied members who had already established their own registered programs. Changes at the two allied companies have affected the total apprenticeship enrollment. One of them was the German-owned company that had been part of the pilot program. The management of this company had been strong advocates of apprenticeship and promoted it as a culture, not just a training program. One manager stated that if the company ever closed, the apprentices would be the last ones to turn out the lights. This company added new apprentices every year and saw apprenticeship as an essential investment in their future. Early in the project,

another company bought this company and replaced the upper management. The new management suspended the apprenticeship program and even laid off one journeyworker who had completed during the pilot program.

The other allied company is very large and has had its own apprenticeship program for 25 years, on and off. For most of that time, they simply sent apprentices to take classes without the knowledge of anyone at the college. They began to collaborate when invited to be part of Apprenticeship 321. They are a large employer whose business is cyclic. Over the years they have had large layoffs and rehires. Recently business is down, so they have also suspended their apprenticeship program until things get better.

These external factors have lowered the number apprentices enrolled despite the increase in the number of member companies. The suspended participation of the two companies with the most commitment to apprenticeship has also affected the character of the group. The lesson is that the college must be committed to the program and willing to be patient in the face of unavoidable changes. The remaining companies are either American owned or American managed and apprenticeship is new to them. We believe their commitment will increase as more apprentices complete the program and become valuable journeyworker employees.

Lesson 6 – Be Prepared to Deal with Common Obstacles to Creating a Consortium

In the year preceding the project, college representatives began to visit companies in our service area that our EWD representative knew had either expressed interest or were likely to be interested in apprenticeship. We then brought those who were indeed interested together to discuss the formation of the consortium. Several obstacles arose and had to be dealt with before the consortium was formed.

North Carolina is a right to work state; some of the companies interested in apprenticeship had unions but most did not. Some of the non-union companies were concerned about their apprentices taking classes with others who were union members. The response to this was that in any class their employees take, their fellow students might be union members. The classroom is not a likely place to promote unions, and staying out of the consortium would not shelter their employees from contact with union members. This has proven to be the case and now union and non-union companies (and apprentices) work or learn together without unions being an issue.

Another issue was a concern that the company would invest a lot of time and money in an apprentice who might then leave to work somewhere else. The short-term answer that most companies have used to avoid this is a contract provision that the apprentice will continue to work for the company for a set period (usually equal to the length of the apprenticeship). If they voluntarily leave early, they are required to reimburse the company for the cost of tuition, fees, and books while in the program. The college leaves all human resource policy matters up to the individual companies, so this is not a

requirement. The long-term answer to this issue is the idea that if the company invests in an apprentice and continues to treat them well, the apprentice will feel loyalty to the company and wish to stay there for many years. There was a related concern that journeyworkers may be recruited away from one member company by another. The answer to this has been an unwritten agreement among the companies not to do so. However, if one company is facing a need to reduce labor and another has a need for a journeyworker, they may allow the journeyworker to change by mutual agreement.

Another obstacle that arose early was the pay scale. Apprenticeship programs are required to have a graduated pay scale with increases based on either time or demonstrated job skills that culminates in journeyworker pay at the end of the apprenticeship. This had to be common to all the companies; however, it is a minimum and individual companies can pay more if they wish. We based the scale on wage data for our region. At one time, textiles was the major industry in our area. Trade agreements and off shoring resulted in the closure of all but a few textile plants. Those that survived have extremely small profit margins and tend to pay lower wages, even for skilled workers. Unfortunately, two textile companies who were initially interested have never joined due to this obstacle.

Individual company policies can create obstacles. One of the member companies has a policy of hiring new-hires only as temporary employees. After a period of employment as temporary workers, they can eventually be hired directly. However, the apprenticeship regulations require that apprentices be company employees. This problem was overcome by allowing the company to hire the apprentices as temporary workers and let them progress through the program without the title of apprentice. Then, when they are hired, the related instruction and on-the-job training they had already completed could be counted toward their apprenticeship.

Another issue arose regarding community college service areas. As we began promoting the consortium to companies in our college service area, word spread to companies that were in adjacent counties and were served by other community colleges. They contacted us and asked about joining the consortium. The approach we took was to never initiate contact with a company in another service area. However, when a company contacted us, we would inform the college that served their area and then meet with them. Two of the current 12 member companies are in an adjacent service area.

Lesson 7 – Develop a Recruitment Process that Places Responsibility in the Proper Place

Early in the establishment of the program, we realized that the recruitment and hiring of apprentices is something that had to be primarily the responsibility of each individual company and their human resource professionals. We needed to establish a system that made it clear the college did not put forward some candidates over others or have any direct part in the selection process. The solution was found in the use of the

college's job website. Here any employer can register and post jobs that can be viewed by all current and former students. Employers were trained on how to register for and use the system. Now we can refer those interested in apprenticeship to the website without handling resumes or applications. No one receives preferential treatment because the opportunity is available to all students. In some cases we have had to grant special access to the website to those who were interested by not yet students, but this rarely occurs.

The website also deals with issue of multiple companies recruiting for apprentices at the same time. Students can see all the opportunities at once and apply for as many of them as they like. If they receive multiple offers, they can choose the one they like best.

The college does actively participate in general recruiting for Apprenticeship 321. We have a website and Facebook page for the program. Our representatives attend multiple career fairs, high school job events, and college events each year. We have banners for use in booths and color pamphlets to pass out. We obtain email addresses of those interested and email them when new opportunities are posted on the job website.

Lesson 8 – Make Administration of the Program as Easy as Possible for the Companies

Any registered apprenticeship program creates a great deal of administrative overhead. To keep apprenticeship attractive to member companies, it is important to minimize the burden on them. Having the apprenticeship registered to the college helps a great deal with this. However, the company is still responsible to keep track of on-the-job training hours, award pay progressions at the correct times, and to appoint qualified mentors. They are also responsible for posting opening and for the hiring process. They must send sponsorship letters to the college each semester and pay the bill in a timely manner. We have done several things to help simplify all this. The college Apprenticeship Administrator has created a calendar of recurring events showing when they need to be completed. She also sends reminder emails as deadlines approach. Upcoming dates are also shared at each quarterly meeting of the consortium.

Another important administrative (and legal) issue is the Family Educational Records Privacy Act (FERPA). In order for the college to release any academic information such as grades or attendance to company representatives, they must be named on a FERPA release form signed by the apprentice. One of the duties of the Success Coach is to ensure each apprentice completes this release upon entering the program and completes a new one if there are personnel changes at work.

Lesson 9 – Create a Standard Set of Qualifications for Candidacy for Apprenticeship

Because companies will invest time and money in each apprentice, it is important that candidates have the qualifications needed to succeed in the program. While these might vary depending on the type of apprenticeship jobs, advanced manufacturing jobs are technician level so Apprenticeship 321 has chosen the following qualifications:

- Must be 18 years of age and able to meet specific employer requirements.
- Proven workplace skills shown by the National Career Readiness Certificate test.
- Provide official high school transcript or proof graduation at that level.
- Complete the Gaston College student application process and speak to an Apprenticeship Advisor.
- Complete placement test to show readiness for college level math (for eligibility in Pre-calculus Algebra).

Typically, the employer will pay for the CRC test and require silver level certification. Interested people who have not completed high are referred to our Adult Education or GED programs. Those who do not qualify for Pre-calculus Algebra can take developmental math classes to prepare themselves. Sometimes, especially in the case of incumbent workers, the company will pay for these. Pre-calculus Algebra is common to all apprenticeship job related instruction sets.

Lesson 10 – Design Related Instruction that is Practical for Employers, Apprentices, and the College

In an apprenticeship program, related instruction is formal classroom training that supports the apprenticeship job. While other types of formal training can be used, curriculum courses that bear academic credit are often used and have the additional benefit of providing the apprentice with progress toward a diploma, associate degree, or even a bachelor's degree. Apprenticeship 321 uses curriculum courses for related instruction.

The related instruction courses for the pilot program were chosen by the company from the college catalog. These had to be re-negotiated since some chosen were electives that were not offered regularly. This company used the approach that apprentices would work 32 hours per week and be given time off (unpaid) to attend classes during the day. The courses were all technical and did not include any humanities, fine arts, social or behavioral science or English courses. Without these courses, the highest academic certification was a certificate under an existing program.

When these jobs were adapted for multiple companies in Apprenticeship 321 and two new jobs were added, we designed the related instruction to overlap as much as possible. Courses common to all four jobs were chosen for the first year. This created enough enrollment for us to be able to schedule all the courses on Tuesday and

Thursday afternoons, which made it convenient for the companies to create work schedules around the related instruction. The consortium decided to continue using only technical courses; students would be encouraged to continue taking courses on their own time after completing the apprenticeship to complete their associate degrees. Typically, these would be paid for under each company's existing tuition reimbursement program. We continued to make sure that each apprentice received the credit necessary for an academic certificate. To facilitate this, we added a new Associate of Applied Science degree in Manufacturing Technology. Classes in this degree are shared with other programs so there was no additional cost in doing so. We created certificates under this degree that aligned with the related instruction. The common classes only take place during the first year; afterwards the content varies and courses have to be taken when offered under the normal college schedule.

Our state apprenticeship representative pointed out that the number of hours of related instruction was well above the minimum required for the jobs. She noted that some companies might want the option to offer less. We decided to divide the related instruction into levels (two or three, depending on the number of years required to complete the apprenticeship). Companies who want the most comprehensive related instruction can choose the highest level, while others are free to choose a lower level. So far, all companies have chosen the highest level.

The need to take second and subsequent year courses under the normal college schedule has begun to be an issue for some companies. Two more jobs, which take four years to complete, were added. For these three quarters of the program has to be done according to the college schedule. Most companies have not followed the model of 32 work hours per week. Their apprentices work 40 or more hours per week. We are in the process of revising the content of the related instruction and how it is offered. All of the academic programs related to the apprenticeship jobs have evening programs. We plan to move related instruction to evening classes. In the case of the two four-year programs, we will align them with our Associate Degree evening programs. We will also note when typical evening students would be taking general education courses in case some companies wish to have them take these and complete the Associate Degree when they complete their apprenticeship. However, the general education courses will not be part of the actual related instruction.

[Outline of Steps for Community Colleges Who Wish to Follow our Model](#)

The current version of Apprenticeship 321 has evolved and improved from what we originally conceived. The following steps represent the incorporation of the lessons learned along the way into an outline of the steps we would now follow to create an advanced manufacturing apprenticeship consortium. This outline assumes someone in a technical academic division at a community college is initiating the project. Of course, these are simply suggestions and you should modify them according to your individual circumstances.

1. Educate yourself on apprenticeship. There is a lot of information available on the internet. Find out if other apprenticeship consortia exist near you. Contact your local state apprenticeship representative, meet with them, and discuss your ideas. They will be knowledgeable about what local rules exist, what apprenticeships already exist, and are a great source of information about apprenticeship programs. Make sure they understand you propose to register the apprenticeship to the college. The current apprenticeship regulations allow this but the approach may be new to your representative.
2. Present your idea to leaders at your college. This may be through a meeting or informally through email. Make sure you frame the project as something you are exploring for feasibility at this point. Explain that you will return with a more definite proposal when you have determined industry demand. The point of this step is to be certain there will be support from the college when the time comes. How far up the leadership ladder to go at this point depends on the usual procedures at your college. You should at least get support from the vice president for academic affairs and the head of the economic and workforce development divisions at your school.
3. Get a partner from the economic and workforce development division who frequently works with local industry through industry training programs. This person will have contacts in industry and know which industries have expressed interest in apprenticeship or are likely to be interested.
4. Create a short presentation that explains the benefits of apprenticeship and an apprenticeship consortium. With your partner, create a prioritized list of industries to visit. The more companies you can visit, the better the chance of getting an adequate list of interested companies. The purpose of the visit is simply to gauge interest. Details such as the cost and time involved will come later.
5. Make appointments with people at each company your partner identifies as decision makers. Present your case and answer questions. Ask them if they have skilled workers who are nearing retirement age. Ask them if they have had an adequate number of qualified applicants for skilled jobs they have posted. We have found that concerns about these two issues are common and are the main reasons companies consider apprenticeship. Keep the appointment short and thank them for their time. If they are interested, tell them you will contact them about next steps soon. If they are not interested, ask them to keep the idea in mind in case their needs change in the future. Ask what specific jobs they project will need to be filled by skilled workers in the next few years.
6. Continue this until you have an adequate number of interested companies to proceed. The number is up to you, but a manageable number for beginning would be five to seven companies. Too few will probably not justify the amount of work needed to run an apprenticeship program. Too many will be difficult to manage. It is better to start with a moderate size and then invite others to join when the program is underway. At this point you will have data from the companies on the kinds of jobs they need to fill. Work with your state

- apprenticeship representative to decide what jobs should be part of the apprenticeship. The number should be as low as possible, keeping in mind that each job will be customized by the on-the-job training portion.
7. Create an internal core team to guide the process. This will include members from the academic and the economic and workforce development divisions. The group should be small, typically about five people. This group should meet either weekly or bi-weekly depending on the level of activity.
 8. Decide on how the program will be funded. The best approach is to seek a grant that will cover the startup costs and the first two years of the project. The main budget items will be for an administrator and a success coach. The process of writing the grant will help you begin to think about the details of the program. Having interested industries that can write letters of support will strengthen the proposal. At this time you will want to also bring in other stakeholders to write letters of support. This should include the career and technical education leaders in your public school system and economic development entities in your area. Having an active apprenticeship program in the community college will make your area more attractive to industries considering locating there.
 9. Continue to generate interest while waiting for approval of the grant. Invite companies to group meetings. Present the jobs and related instruction you propose to sponsor. Begin to discuss how the program will work and the benefits of having the apprenticeship registered to the college. Answer questions and deal with any obstacles that arise (such as those mentioned in Lesson 6). Also begin to discuss options if the grant is not approved. Would the companies be willing to pay a fee to cover administrative overhead in addition to the normal costs of tuition, fees, and books for apprentices?
 10. Develop more detailed plans and procedures for how the consortium will work. Finalize related instruction courses. Plans should include all the areas mentioned in the Lessons.
 11. If the grant is approved, begin the procedure to register the identified jobs to the college. Once this is complete, have a kick-off meeting (perhaps with a ceremony) to officially form the consortium by having members sign on to the apprenticeship agreement. By this point you should have a name for consortium, approved by the members. If the grant is not approved, meet with the interested companies and propose a fee structure to support the program. If they agree, proceed as above. If not, put the program on hold and apply for another grant.
 12. Assuming the program can proceed, the next step is to hire a success coach. This is typically a part-time job and the number of hours depends on the number of apprentices the companies project hiring. The success coach should be hired in time to assist the first group of apprentices in the registration process. Begin related instruction in the fall semester so that classes align best with the degree programs they come from. Hire or appoint an administrator. This could be a release time position for someone already at the college or a new part-time person. This person should be very knowledgeable about apprenticeship

regulations and work closely with the state apprenticeship representative. Have the company identify mentors for the apprentices. Provide a training session for the new mentors by a knowledgeable person. Have each company identify who their lead contact for apprenticeship will be. Have each company decide how they will monitor on-the-job training. The best way to do this is to create a checklist of skills the apprentice should learn and have the mentor sign off as they are completed. Identify supporting team members from other parts of the college, such as those mentioned in Lesson 3. Have them meet with the core team and learn about the program so they can best support apprentices.

13. As soon as you know the program will proceed (through grant funds or company fees) begin the recruitment process. This process should take into consideration the concerns in Lesson 7. Recruitment for fall semester should begin in early spring so there is time to identify, interview, and select candidates, and so they have time to complete the college application process. Depending on the type of apprenticeship, it may be possible for apprentices to begin on-the-job training before beginning classes. The state apprenticeship representative can advise you on which type of apprenticeship best fits your needs.
14. Once apprentices are identified and taking classes, the success coach will begin regularly meeting with them and helping with any academic problems they may encounter.
15. Have quarterly meetings with representatives of the consortium. Invite other interested companies so they can learn about the program and consider joining the future. A good practice is to allow companies to sign on to the program at any time but to begin related instruction the next fall.

Conclusion

Apprenticeship 321 has been a very successful program for the college, the companies, and the apprentices. Feedback from employers and apprentices has been very positive. We are in the process of adding a pre-apprenticeship program for high school students that begins in the 10th grade with summer camps and plant visits, progressing to a summer internship, and eventually transition into the full apprenticeship program. We are also forming a regional group of community college that want to create similar programs in their service areas. We are still learning lessons and looking for ways to improve the program. We hope the lessons and suggested steps shared here will be helpful to others who are interested in doing something similar.