Workforce Learning Summit Innovation or Best Practice

South Piedmont Community College

Building Programs from an Industry Perspective

This program was designed to meet the specific high-skill high-wage needs of a large local aerospace supplier, ATI Allvac. Working in close partnership with the company, a credit-based multi-track mechatronics program was developed. This program fits within the North Carolina Community College program framework and also meets the specific needs of this employer. The curriculum, program delivery schedule and ongoing feedback cycles were developed in partnership with this employer.

DETAILS

ATI Allvac is a highly specialized manufacturer of aerospace primary metals serving defense and non-defense aerospace markets. Due to the nature of the processes, equipment and materials, and compounded by retirement and growth needs, the company was finding it difficult to find technicians with mechatronics related skills. In-house seminars, device specific training and manufacturer technical training was not developing enough technicians with broad diagnostic and repair expertise. The company’s unique schedule also made it very difficult to send employees to local or regional training opportunities. The generic community college mechatronics program did not meet the needs of the company, and the traditional college scheduling practices were not conducive to employee participation.

Working together, the community college and the company developed an array of company specific student learning outcomes and fit them to the students’ needs and company schedule.

Opportunities Outline:

- Need 1 – Gap between new technology and skills of employees
- Need 2 – Looking for broader skill sets
- Need 3 – Cost of training through private companies is excessively high
- Need 4 – Training conflicted with work schedule

How was the innovation/best practice developed?

- Determined which existing programs best fit needs and understood gaps
- Company wanted employees to earn an associate’s degree with embedded certificates as opposed to an apprenticeship
- By changing existing degree, created hydro-mechanical pathway under electrical systems with two certificates
Which partners played which roles?

- ATI provided information on needs and existing limitations, selected applicable courses from the combined course library, received internal support from company leaders and received support from HR to cover cost

What was implemented as part of the innovation?

- Grouped employees needing training into cohorts based on their work schedule, which allowed classes to rotate in a way that at least 9 employees could consistently attend each class
- Created two new certificates that could be completed in four semesters by taking one class at a time
- After four semesters, employees could receive two curriculum certificates and could apply those towards the newly created associate degree
- ATI provides funding for employees to take courses
- Faculty worked with employer to incorporate coursework into practice in the workplace
- Supervisors have access to all the course materials and on-line component
- Held meeting with employer to understand needs

Implementation began in June 2014.

Partner Type(s):
- Business/Industry (direct involvement)

Impact/Outcomes
26 students have been enrolled and are participating in the program, which will lead to a certificate embedded in the mechatronics associate’s degree. The students are earning college credits and building a transcript that will apply to an associate’s degree.

Anticipated Impacts:
1. The anticipated impact will be that we build stronger fundamental skills knowledge in the areas of hydraulics, industrial electricity, motor controls and wiring.
2. The anticipated outcome is that we will thoroughly train our incumbent workforce and then open this program to the public and openly endorse by ATI. Opening to the public will build the foundation for a pipeline of talent to feed our plant’s future talent needs.
3. The company estimates that 50% of its incumbent workforce will participate in this program.

All four ATI Carolina Operations are committed and actively participating in this program

Current Outcomes:
1. Significant savings to the company due to reduced time for contracted training and lost time for key employees. Previously the company had employed a combination of contracted in-house training and a train-the-trainer approach.
2. Improvement in the consistency of training. The development of a curriculum that met the company’s needs created a consistent skill base directly applicable to the company’s current and future needs. The use of a live lab with sophisticated training aids allow for students to make mistakes as part of the learning process and practice to improve success.
3. Additional reinforcement of core non-technical skills. Students participating in the program cohorts are also receiving reinforcement in math, communication and writing skills as a
component of their training. These skills will enhance students' classroom and on-the-job performance in technical tasks and in communication with their peers.

**Funding Source(s)**
Each employee is attending class on one of their days off and the classes are scheduled for an entire day. Funded by the employer through tuition reimbursement for successful course completion and FTE earned.

**REFLECTIONS**

**Innovation or Best Practice**
1. Co-design of the courses and program of study with an industry partner
2. Direct involvement by the company in a student mentorship/advisor role
3. Creation of a schedule that fit the needs of the company and employees

**Lessons Learned**
One size does not fit all. This program was designed completely from the company perspective in regard to schedule and student learning outcomes, ignoring the self-imposed constraints of outcome sequence and schedule. Once this was developed, the college created a schedule, sequence and student support structure unique to this program. The college also created shared student support mechanisms and a cost structure to support both students and the program.

**Scalability**
Two areas that would be the easiest to scale up are the shared student advising/mentoring protocol and the one day a week schedule.

**RESOURCES**

**Workforce Learning Summit Presenters**
Dr. Stan Sidor, President, South Piedmont Community College
Dr. Marie Lander, Dean of Applied Science and Technology, South Piedmont Community College
Mr. Robert James, General Superintendent Maintenance, ATI AllVac
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