

Here is an overview of information we collected from our interview with Dr. Clayton McNeff and Dr. Bingwen Yan on Tuesday, Dec 10, 2013 at SarTec in Anoka, MN.

Dr. Clayton McNeff is the Vice President and co-owner of SarTec and EverCat, two medium sized businesses employing 32 employees in our region. Andy Aspaas and Noah Strom met with Dr. McNeff and Dr. Bingwen Yan, a SarTec employee, to gather data for our strategic planning process.

When our meeting began, Dr. McNeff's first question for us was about research. He wanted to know what sort of research science students at ARCC and ATC were doing. He went on to tell us that an undergraduate student at Augsburg who was working for him gave him the idea for creating biodiesel, which has since become a very profitable business venture for him. He also told us about an internship program called SciTechExperience, which has supplied him with interns in the past. The main implication of this information for us is that students who have the ability to think like researchers are more valuable to employers like Dr. McNeff than students who cannot.

At the time of our meeting, Dr. McNeff had 2 job openings for manufacturing positions, and he said that students from Anoka Technical College are exactly the type of people he looks for to fill these positions. He stressed the importance of employees possessing the "soft skills" that we teach at ATC and ARCC. Employees need to be effective communicators, have the ability to write reports, and understand computer displays of the manufacturing plant and pump. An important job skill for his manufacturing employees is the ability to troubleshoot problems with a 4000 PSI pump using data from a computer and to take apart and rebuild the pump, when necessary.

Dr. McNeff also mentioned grant-writing as a valuable skill. Much of the funding for research conducted by EverCat comes from grants from the National Institutes of Health, Xcel Energy, the Department of Energy, and The National Science Foundation. We all agreed that the schools need to have a positive economic incentive for faculty to apply for grant funding and work with undergraduate research.

His general impression of ATC and ARCC was positive.

How can ATC and ARCC form a stronger connection with SarTec and EverCat?

1. Used cooking oil can be and is used in the manufacture of biofuel at EverCat. EverCat currently collects used cooking oil from several local businesses, including the ARCC Coon Rapids food service. One simple way that ATC and ARCC could become more involved in this local business is by having groups of students, preferably from a science class, collect used oil from the school cafeteria and transport it to the EverCat manufacturing plant. This would get students involved in a local business and give them an opportunity to see, first hand, how a biotech company works.
2. Science classes at ATC and ARCC can incorporate more research-like assignments into their curriculums. For example, groups of students could be asked to identify sources of biofuel and strategize ways in which these could be grown and extraction of oil from them optimized. Or, students could come up with biotechnology ideas of their own that are environmentally friendly and fulfill an

economic need. Students could then research the feasibility of such ideas. A similar project to this is pending NSF grant approval in the ARCC chemistry department.

3. Get students from ATC and ARCC enrolled in "SciTechsperience."

URL: <http://www.mhta.org/work/scitechexperience-internships/>

According to their website, SciTechsperience "is a paid internship program that connects college students in science, technology, engineering and math (STEM) disciplines with rewarding hands-on opportunities in Minnesota businesses." The program benefits students and small to medium sized employers. Getting students involved in this would help our local economy and provide our students with valuable real-world experience working in a science and/or technological field. SarTec has hired interns through SciTechsperience in the past, and they would like to have them, again. If ATC and ARCC students take advantage of this, we can form a stronger bond with SarTec.

4. Machine trades faculty at ATC can design assignments that focus on troubleshooting problems in manufacturing plants, specifically problems with high pressure pumps. They can also incorporate assignments in which data displayed on a computer screen showing the operation of a plant is interpreted by students. EverCat has a \$1M computerized automation and control system – this would be of great interest to our IT and CNET students.