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The Toyota Way

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University of Dayton accounting professor Joseph Castellano is a true believer in the Toyota Way and the Toyota Production System.

He knew the renowned management philosophy could produce efficiency, save money and create a climate for continuous improvements within corporations. But Castellano didn't think the philosophy, which he believes was inspired by W. Edwards Deming was being widely used in a nonprofit setting.

"I saw the Toyota philosophy being applied outside manufacturing, such as in health care and service organizations," Castellano said. "I got the idea that if their philosophy could be used to improve service organizations, hospitals and the like, why not nonprofits?"

Castellano recruited 16 MBA students and found an eager collaborator in Ann Higdon, founder and president of ISUS Inc., a community-based organization in Dayton that creates charter schools to prepare students for careers in construction, health care, advanced manufacturing and information technology.

Working in partnership with the ISUS staff, the UD students delved into the operations of the nonprofit organization to come up with recommendations that promise to improve the operations of the innovative nonprofit organization that gives out-of-school youth a second chance at high school, job skills and higher education, Castellano said.

The MBA students and the ISUS team members will deliver their final report and unveil full results 12:30 to 3 p.m., Wednesday, April 30 in Room 222 at Kennedy Union.

According to Higdon, the ISUS staff is very pleased with the results.

For example, Mike Wilson, ISUS High Tech Homes plant operations manager said the UD students examined the flow of work and materials and made some impressive findings and recommendations.

"In one process the operator builds a subcomponent and when it's finished, he places each one on a cart. The UD students studied it and came up with the new idea to install a roller conveyor," Wilson said. "That way, when he's building 30 of the same thing, they can accumulate. When he's done with all of them, he puts them on the cart all at the same time. That alone was a 66 percent time savings."

Other recommendations included:

* In the plant, UD students and ISUS staff immediately improved the organization of the materials staging area. Simply sorting lumber by type and size using visual controls such as signs and boundary markers saved workers significant time.

* Analysis of the admissions process found that improving the assessments of new students would create efficiencies in teaching. The solution was a better pre-enrollment assessment that more accurately measured students' achievement and aptitude.

* Placement staff considered the timing of student portfolio preparation and interviewing, and discovered that in an average quarter, some students complete coursework early. Now, those students are enrolled in their first college-level classes at Sinclair Community College, giving them a head start on the fall term.

Wilson said some ideas were tested in raucous time trials so that the UD-ISUS team and the ISUS students could see the differences and measure the savings.

"The time trials were fun. The operator built 10 of one thing the old way, and 10 of the same thing, using the supermarket organization from the Toyota way. Everybody treated it like it was a race and were cheering him on -- they actually got a kick out it," Wilson said.
Castellano said his original intention was "to prove to myself that nonprofits could benefit from the Toyota principles."

"This can help the organization take the donor dollars they get and improve quality, productivity and effectiveness. That means the donor dollar will go farther and provide more services," Castellano said.

He said he started in the summer of 2007 by training about 50 ISUS employees with Jeffrey Liker's The Toyota Way and its implementation guide by Liker and David Meier, The Toyota Way Fieldbook. Five additional training sessions followed for ISUS employees as well as his MBA team. Field work at ISUS began at the start of the semester in January.

Higdon readily acknowledged the value of the student learning project. "We could never have done this with a consulting firm," she said. "We would have had to use more than one – one for the manufacturing operations and another for the fiscal processes. This project with Dr. Castellano been very valuable for us."

Castellano, who has been on a one-term sabbatical to work with ISUS, indicated that he will continue his work with them and in the future involve other MBA students in ISUS projects. Higdon is also enthusiastic about their on-going partnership.

First, it's a great learning experience – he calls it "an application of practical wisdom" for his MBA students. "They had the opportunity to study the system in the fall, and then in January apply it to this nonprofit organization.

Service learning is also consistent with the University of Dayton's Marianist tradition. "It's very Marianist in the spirit of learn, lead, serve," Castellano said. "They are learning about this transformative way to do business; they are providing leadership to this nonprofit organization and in the work they are doing to help these young people, they are serving the community."

While Higdon and ISUS have been converted to the Toyota Way, Castellano admitted that along the way, he's become an ISUS convert.

"Kids who are not making it in mainstream schools are earning diplomas, and the placement rates are increasing," he said. "I believe in the ISUS mission and vision. It's a pleasure to be involved with this group. I have never met a more dedicated group of employees or a stronger champion than Ann Higdon."
