

Continuous Improvement Using Lean Principles

December 2017 Update

Leaders in Continuous Improvement

The [Leaders in Continuous Improvement](#) (LCI) student organization was established in 2013; there are currently 50 active members. LCI is a service-oriented organization where students learn about continuous improvement and Lean principles to make both their own lives and the organizations they're involved in better. Continuous improvement can be applied to both everyday tasks and complicated processes in non-profits, industry, government, at home, at school, and in our communities. Studies show and recruiters verify that there is a strong and growing demand from employers for continuous improvement knowledge and skills. Expertise in continuous improvement and Lean provides our students with a competitive advantage. In LCI, they learn about Lean through guest speakers from industry, hands-on activities coupled with on-line course materials, industry trips, on-campus improvement opportunities, and networking.



LCI meets every week during the semester, and the executive board (E-board) plans the semester to include guest speakers from industry, gemba walks on campus and in the community, and hands-on activities. Guest speakers include visitors from John Deere, Ford Motor Company, Amway, and Whirlpool. LCI also organizes gemba walks for its members. The “gemba” is the place where work is being done. At the gemba, you can see the actual processes, understand the work, ask questions, and learn. Gemba walks are an important part of effective Lean leadership. LCI members have attended gemba walks at The Muffler Shop, the Van Pelt and Opie Library, and Quincy Woodwrights. Hands-on training and activities are developed by the LCI E-board on basic knowledge



LCI members learn new Lean concepts at every meeting.

and skills like the Plan-Do-Check-Act (PDCA) cycle, root cause analysis, process mapping, and identifying the eight wastes: motion, waiting, movement, rework, inventory, overproduction, overprocessing, and untapped knowledge. LCI members have attended industry tours provided by notable Lean organizations like Systems Control, Pettibone, BOSS Snowplow, and Parker Hannifin.

Service is important to LCI, so they partner with several non-profit organizations. For non-profits, more efficient and effective processes mean more of their resources can be used to increase their mission impact. LCI helped 31 Backpacks improve their flow for packing meal sacks for at-risk K-12 students, provided Little Brothers/Friends of the Elderly with training on process improvement, and applied Lean workplace organization methods to the pantry of the Husky Food Access Network.

The LCI E-Board developed an organization and participation reward system that makes learning fun for their members. Their hard work paid off. This year, they received the Student Leadership Award for the *Most Improved Student Organization*, and their president, Martine Loevaas, received the award for *Exceptional Enthusiasm as a Student Leader*.



LCI E-Board members accepting the Student Leadership Award.

Lean Outreach and Connections

- **Dr. William Balzer Visits.** Dr. Balzer is the author of the book [Lean Higher Education](#) and a professor at Bowling Green State University. In preparation for a revision of his book, he visited Michigan Tech to see how we are implementing Lean. He met with faculty, staff, and students who are deploying Lean at Tech. Dr. Balzer said, "Thank you for being an international leader and role model of how best to do Lean higher education....You are lighting the path forward for many who will follow."
- **St Norbert College (SNC) Cohort Completes Training.** St Norbert College engaged the services of the Office of Continuous Improvement to train their first cohort of Lean facilitators as they begin their Lean transformation journey, which is one of SNC's strategic initiatives. After considering several training options, SNC chose Michigan Tech. They feel Tech is a leader in Lean practices in higher education, and they resonate with the embedded Lean facilitator model that Michigan Tech follows.
- **Michigan Tech Presents at 7th Annual [Michigan Lean Consortium](#) Conference.** Van Pelt and Opie Library employees Laurie Stark and Annelise Doll were selected to present *Roadmap to True North*, where session participants developed an action plan for implementing Lean. The director of continuous improvement, Ruth Archer, delivered a workshop on *The 7 Quality Tools for Steering to True North*, based on the work of the iconic W. Edwards Deming. The participants learned how to collect and display data using a paper airplane simulation Ruth created. This is the third year in a row and the fourth time in total that Michigan Tech has presented at the conference.
- **Student Process Improvement Coordinators (PICs) Lead Info Sessions.** Peer-to-peer learning is an excellent Lean outreach activity, and our student PICs are eager to share their passion for Lean. They planned, organized, and delivered a Lean information session, for students, by students.
- **Dan Vermeesch Visits Michigan Tech.** Dan Vermeesch, the plant manager and Lean champion at Micron Manufacturing in Grand Rapids Michigan and a Tech alum, was the guest speaker for this year's Lean facilitator graduation. While he was at Michigan Tech, he also led a question and answer session on Micron's Lean transformation for the local Lean community and talked with facilitators and students.



The first Lean facilitator cohort at St Norbert College; these employees will lead others in process improvement using Lean principles.



Student PICs teach other students a tool for organizing ideas called an affinity diagram.

Continuous Improvement Events as of November 20, 2017

Formal – Managed through OCI					Informal
Executive Team Area	Active as of 20 Nov 17	Completed since last report 1 Jul – 20 Nov 17	Completed FY18 YTD	Completed FY17 Full Year	Reported by Facilitators
Academic Affairs	1	1	1	4	1
Administration	2	5	5	6	3
Finance	0	0	0	3	0
Research	2	0	0	1	0
Student Affairs & Advancement	2	1	1	3	1
Total	7	7	7	17	5