

## Continuous Improvement Using Lean Principles

February 2017 Update

### Lean Students at Michigan Tech

Connecting Lean academic courses with student experiences provides students with the knowledge and skills to replicate continuous improvement practices in their current activities and their future careers. In one Lean academic course, students were asked to read an article on Lean culture. The article emphasized creating a Lean culture by focusing on changing the way people behave, providing employees with the means to both do their work and improve their work in a no-blame environment. Reflecting on the article, Evan Tumey, a mechanical engineering major involved in the [General and Expedition Adventure Research Enterprise](#), made the connection between a management style he experienced and a Lean culture, and also developed the terminology to articulate it. Evan wrote,

*This article reminded me of the practices used during my 2015 internship with Boss Snowplow. From my first day, I quickly realized how strongly the company emphasized safety and quality. After reading this article, I know that the culture Boss has comes from a similar background. When it comes to safety they encourage employees to report incidents and to voice safety and quality concerns. In fact, they say every employee has a company duty to report issues and concerns on the spot. Often positive attention and praise follow from their managers. Also, the engineers, managers, and all office staff are required to provide clear standard work practices for their jobs and for the workers who will be assembling their products. This sets a clear expectation of the final goal and the best practices to reach that goal. My experience at Boss is validation that a quality culture can be built by informing the worker of clear job practices and encouraging workers to report and solve problems.*

Kush Shah is a recent mechanical engineering graduate; he was in the [Supermileage Systems Enterprise](#) (SSE). He learned several Lean methods and tools in a Fall 2016 academic course. As a team leader, Kush found that his team members were often unsure about how to break down projects or what needed to be done next. This led to micromanagement and communication conflicts. Working with his team, he implemented a kanban board which provided status at a glance for their projects. Kush said “this gave me time to lead, see what needed to be done, and get feedback from team members,” and “brought collaboration, responsibility, and quality work back into our team.” When he started the kanban board, the team



SSE Body Team members with their team leader, Kush Shah (second from right), and their advisor, Rick Berkey (far right), Director of the Enterprise Program in the Pavlis Honors College.



Kush Shah leads an SSE Body Team discussion.

project was three weeks behind; at the end of the term they were nearly on schedule. Kush's team also used the 5S workplace organizational tool to organize their team equipment cabinet and tool box. Kush said that after the 5S, team members “could see where the tools and materials were without rummaging their hands through all the hazardous tools and equipment.” He added that this raised their safety to a new level and also reduced the time wasted looking for tools.

## Lean Outreach and Connections

- **Leaders in Continuous Improvement (LCI) Student Organization Trains Students.** LCI now recognizes student achievement through an innovative point system that rewards students with advanced status and a “Lean & CI” ribbon for career fair. The students earn points by coming to meetings, volunteering for Lean project teams, participating in fund raisers, going on plant trips to Lean companies, completing online knowledge modules, serving on the executive board, and more.
- **Managing Change Workshop Delivered to Portage Health.** Ruth Archer, the director of continuous improvement, created and delivered a workshop on managing change to Portage Health System’s executive team. The workshop explored the business case for managing change and demonstrated how leadership, project management, and people management work together to realize the benefits from an organizational change. Several strategies and tools for implementing change were practiced.
- **St. Norbert College Seeks Info on Michigan Tech’s Lean Transformation.** Three representatives from St. Norbert College in De Pere, Wisconsin, visited Michigan Tech to learn how we implemented and manage our Lean initiatives. To deepen their knowledge, they also invited our Associate Vice President for Administration, Theresa Coleman-Kaiser, to their campus to speak with their President’s Cabinet and Lean steering committee about our Lean transformation experiences.
- **Karyn Ross Visits.** Karyn Ross is the coauthor of the Shingo Prize winning book, *The Toyota Way to Service Excellence: Lean Transformation in Service Organizations*. She visited Michigan Tech to learn more about Lean universities. Ross delivered a presentation on Lean Office and Service which was well attended (27 attendees) by Michigan Tech employees, students, and members of the local community. She also toured some of the superb Lean and continuous improvement projects and visual management in Auxiliary Services and the Van Pelt and Opie



Library and had informative discussions with campus Lean facilitators.

- **Michigan Tech Presents at Lean Conference.** The director of continuous improvement, Ruth Archer, was selected to present *Creating an Immersive Lean Experience for University Students* at the 2016 Lean Educators Conference. The presentation described the model Michigan Tech uses to integrate Lean across faculty, staff, and the local community for the benefit of students.

### Formal Continuous Improvement Events as of January 20, 2017

Executive Team Area	Active as of 20 Jan 17	Completed since last report 1 Nov – 20 Jan 17	Completed FY17 YTD	Completed FY16 Full Year
Academic Affairs	0	1	1	11
Administration	3	2	5	12
Finance	0	1	2	0
Research	2	0	0	0
Student Affairs and Advancement	1	1	1	4
<b>Total</b>	<b>6</b>	<b>5</b>	<b>9</b>	<b>27</b>