



## **Community College's Lean Efforts Save Time, Money**

*By Bonnie Slykhuis, Des Moines Area Community College*

Des Moines Area Community College (DMACC) is located in the heart of Iowa and serves more than 60,000 students on six campuses. For more than 15 years, trainers from the college have provided process improvement (lean) training and consulting services for manufacturers in central Iowa.

Recognizing the need for lean in other business industries, Iowa's 15 community colleges, collaborated in 2005 to develop a new lean program called "workplacelean." The curriculum was designed to apply lean to improve office processes and transactions. Later that year, DMACC conducted two internal workplacelean pilot projects. At the same time, DMACC's Academic Quality Improvement Program leadership team was writing its systems portfolio and planning to implement quality improvements. Building on the success of the internal pilot projects that used the workplacelean programs and the need to coordinate further improvements, the college created a full-time lean consultant position to direct process improvement efforts for the college.

The lean consultant reports to the vice president of information solutions and was moved to an office next to the president to facilitate communication. As the college was gearing up for implementation, DMACC president Rob Denson took every opportunity to express support for the lean initiative and encourage DMACC employees to participate. He emphasizes to employees that "no one will lose their job as a result of lean."

### **Breakdown of lean projects**

Initial projects targeted student services areas because they directly impact students. Each lean project begins with the lean consultant meeting with department leaders to identify the project scope, select project team members representing all parts of the process and develop a project schedule. Project teams typically meet in three half-day sessions. Teams are trained on lean theory and methods before mapping their current states.

During the current-state mapping, the teams identify individual steps, decisions, problems, errors, stakeholders and potential solutions. The current state is then analyzed to remove nonvalue added steps and to identify root causes of inefficiencies. Team members continue by mapping a future state to identify what the improved process should look like in six to 12 months. The team creates an action register that outlines the steps necessary to achieve the future state. The action register identifies tasks, who should work on each task and completion timelines. This becomes the basis for all follow-up activities.

The lean consultant then provides assistance to the team as it implements its plan. This includes monitoring progress, troubleshooting, acting as a liaison with other departments, analyzing identified metrics, interfacing with the IT department and providing updates on the project to the rest of the college.



Student service areas involved in lean projects and the significant results achieved include:

### **Admissions**

- Streamlined the student web application process, leading to a 54% increase in the number of web applications received.
- Introduced an e-mail option for students receiving acceptance letters. Seventy-nine percent of students applying for admission selected the e-mail option, which resulted in a cost savings of \$17,000 in the first year.
- Improved application processing time by 65% from the previous year, using the same number of staff, despite a 35% enrollment increase.
- Reduced application edits by 70% by installing Clean Address Software purchased earlier by the college.

### **Financial aid**

- Created a system to allow students and parents to submit forms electronically, which contributed to a 60% increase in first fall disbursements of student aid (2009).
- Began entering and sending book voucher information electronically between departments and campuses. Voucher processing steps were reduced by 95%, and the need for more than 2,000 book vouchers for first-time borrowers was eliminated.
- Improved financial aid processing steps, resulting in an 83% increase in the number of student loans processed by the same date (July 21) of the previous year.

Three factors converged at the college to shift the emphasis of lean efforts toward business services and operations:

- 1) Cost savings were being realized in student services.
- 2) At the same time, the college was experiencing record enrollment—a nearly 35% increase since 2006.
- 3) A reduction in state funding (\$2.4 million in 2009).

Significant improvements from lean projects conducted in the business services and operations areas include:

### **Payroll**

- Implemented a 100% web time entry of employee timesheets across the college.



- Instituted measures to identify and resolve payroll errors at the source, reducing 52% of errors received by the payroll department and reducing payroll department overtime by 67%.
- Discontinued sending hard copies of employee pay stubs, resulting in a \$26,600 per year cost saving. Employees now access all information electronically.

### **Business office and purchasing**

- Began requiring up-front payments for conference center services, eliminating 32 invoicing steps in the business office and default collections procedures.
- Reduced invoice processing time 40% by creating templates and eliminating redundant steps.
- Updated the college's purchasing procedures and conducted districtwide employee training prior to rolling out updated procedures. The new purchase order process began Jan. 1, and data are currently being collected.
- Implemented a plan to work more closely with departments to monitor budgets and optimize purchasing power.

In addition to projects that analyze work processes, other projects focused on physical workspace organization. Groups and departments have requested help to organize their offices, storerooms, labs and other physical spaces to create better workflow, space use and efficiency, resulting in a more work-friendly environment.

Through these lean projects, departments have eliminated years of outdated documents, supplies and equipment by setting up low-cost inventory management systems and establishing retention guidelines. Employees also learn valuable time management skills, and participants often report successes in applying these lean tools at home.

### **Project completion**

Since DMACC's lean program began, 24 major projects have been completed, along with numerous smaller or one-on-one activities. Priority has been given to processes that transect all campuses, such as those identified earlier. Employees who perform the process steps in the jobs join the project teams along with leadership. Follow-up meetings are conducted regularly during implementation to review progress and to address new issues. When projects are implemented, a report-out session is scheduled with senior leadership to share outcomes.

DMACC's lean implementation has:

- Created a mechanism to assist the college's review, evaluation and update of internal policies and procedures.



- Helped to identify, develop and implement training on processes and procedures.
- Created a forum for departments to collaborate to resolve issues that have been dividing them for years.
- Improved the availability and timeliness of services to students and clients.
- Provided direction and a format for departments to become more proactive in improving services.
- Improved communication within departments, across departments and across campuses.
- Helped reduce overall work steps by an average of 38% per project.
- Improved use of resources and minimized costs of services.
- Moved the college to electronic systems, saving more than \$90,000 per year in printing and postage.
- Motivated employees to question the status quo and look for better work methods.
- Empowered employees to propose and make changes in their work processes.

Lean has proven successful at DMACC because of:

- Continuous support from the president and his cabinet.
- Creation of the lean consultant position to oversee and direct lean implementation.
- An experienced lean trainer.
- The workplacelean curriculum and materials.
- The lean consultant reporting directly to the information solutions vice president, ensuring IT involvement in all projects.
- Cross-functional project teams working together to analyze current processes and develop joint improvement plans.
- The electronic, quarterly lean update sent to every employee so all are aware of the improvements and cost reductions realized at the college.

Lean has helped make quality improvement the responsibility of everyone at all levels of the college workforce and has given individual employees the lean tools and the power to make a difference. As the culture continues to change, employees are more willing to contribute and have found ways to apply the tools they have learned to their individual jobs.



For more information on workplacelean, visit <http://workplacelean.org>. For more information about DMACC, visit [www.dmacc.edu](http://www.dmacc.edu).

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