

A decorative graphic on the left side of the slide features several concentric, semi-circular arcs in shades of blue, teal, and yellow. Overlaid on these arcs are several arrows of the same color palette, all pointing in a clockwise direction, suggesting a continuous flow or cycle.

Making Lean Learning Flow: Moving Lean Facilitators from Training through Application to Growth and Development

07/19/18

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NC&I

Welcome!

Fire exits

- In case of fire, please walk to the nearest exit.

Unsafe act or condition

- If you see an unsafe act or condition, please notify the instructor

Michigan Technological University

We prepare students to create the future.

Our Vision

Michigan Tech will lead as a global technological University that inspires students, advances knowledge, and innovates to create a sustainable, just, and prosperous world.

- Leading public research university, established in 1885
- Enrollment > 7,000 students
- Located in the Upper Peninsula of Michigan
- More than 120 degree programs in arts, humanities, and social sciences; business and economics; computing; engineering; forestry and environmental science; natural and physical sciences; and technology.
- Education emphasizes research, cross-disciplinary study, and team learning.



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NETWORK for CHANGE & CONTINUOUS INNOVATION

- BSEE, MBA, PhD
- Director of Continuous Improvement at Michigan Technological University
- NCCI Professional Development Committee Member
- Michigan Lean Consortium Board Member
- Baldrige and Michigan Performance Excellence Examiner
- Instructor at Michigan Tech
- 22 years in the US Air Force as aircraft mechanic, radar engineer, instructor

Today's Objectives



NETWORK for CHANGE & CONTINUOUS INNOVATION

In this session, you will...

- Explore why Lean facilitator training is necessary but not sufficient to a Lean transformation
- Discuss the many elements that must be considered when constructing a training and development plan
- Learn a framework to create a Lean facilitator training and development plan to sustain a Lean culture at your home university

Why a Development Program?



NETWORK for CHANGE & CONTINUOUS INNOVATION

- Many trainees not transitioning to active facilitation
- Many facilitators not growing new skills and abilities
- Facilitators not all participating equally
- No longer possible to know facilitator's needs
- Facilitator skills and responsibilities now verifiable for resumes
- Framework allows for better definition, measurement, reporting, and improving

Michigan Tech Lean Facilitator Development Program



NETWORK for CHANGE & CONTINUOUS INNOVATION

- Five Levels of certification
- Each Level has associated requirements and competencies
- Facilitators are coached through a portfolio
- Annual recommitment
- Advised by Lean Facilitator Development Board

Certification Levels

- Level 1 – Lean Practitioner
- Level 2 – Lean Facilitator
- Level 3 – Senior Lean Facilitator
- Level 4 – Master Lean Facilitator
- Level 5 – Lean Facilitator Development Board

Michigan Tech Lean Facilitators



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Level	Number
1	8
2	26
3	5
4	0
5	3
Lean Implementation Leader	21
Leave of Absence	6
Inactive	7

Level Requirements



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- Plan for Lean skill development (A3)
- Skill application
- Participation in our Lean community of practice
- Continuing education
- Teaching
- Pair learning/coaching/mentoring
- Reflection

Competency

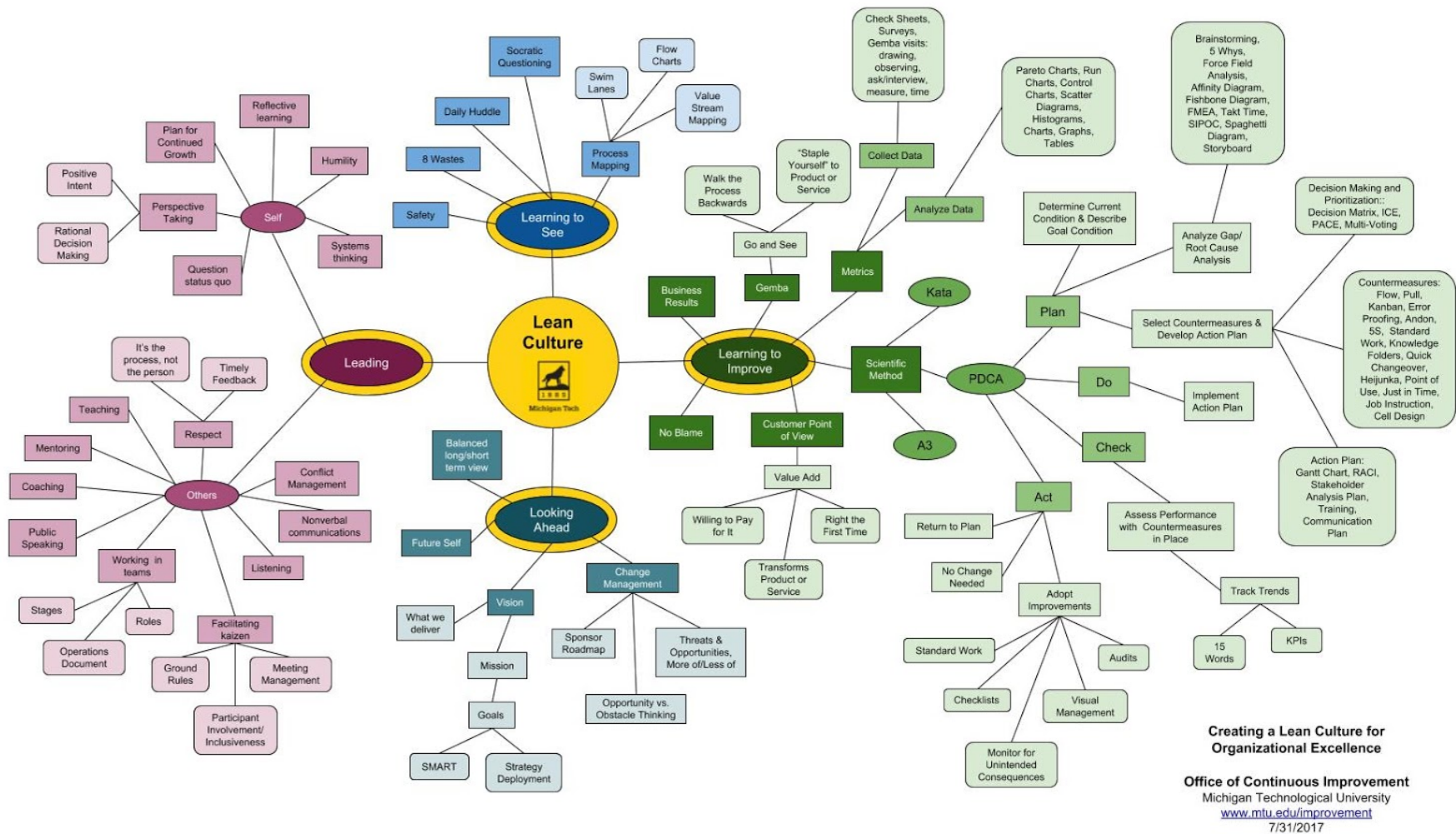


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Levels of Learning:

0. Do not know about
1. Know about
2. Know why and how to do it
3. Able to do consistently and apply in new situations
4. Able to teach and mentor

Lean Culture Mind Map



Creating a Lean Culture for Organizational Excellence

Office of Continuous Improvement
Michigan Technological University
www.mtu.edu/improvement
7/31/2017

Find a copy of this mind map at www.mtu.edu/improvement

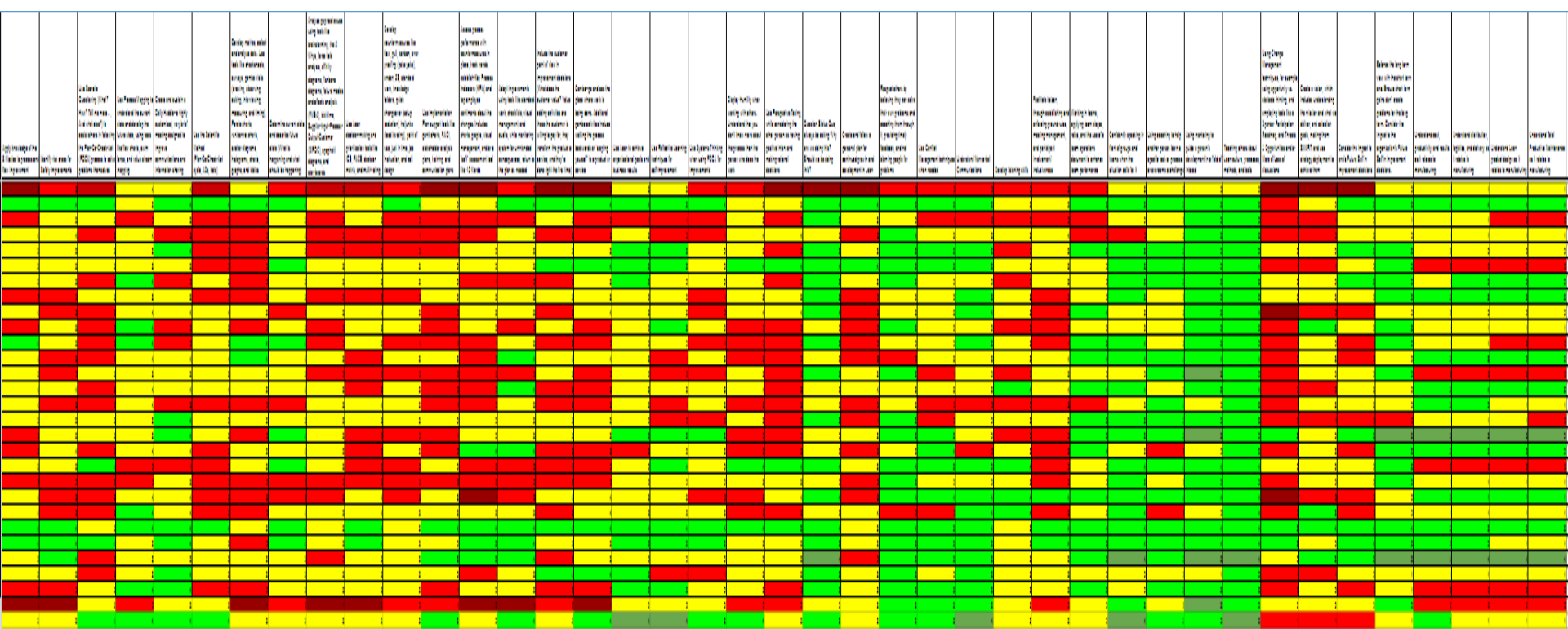
Lean Competency by Certification Level



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EXAMPLE Table 1. Level of Learning EXAMPLE					Certification Level											
Lean Competency					P	F	SF	MF								
Learning to See																
Apply knowledge of the 8 Wastes to process and flow improvement					3	3	4	4								
Identify risk areas for Safety improvements					3	3	4	4								
Use Socratic Questioning (What? How? Tell me more..., And what else?) to assist others in following the Plan-Do-Check-Act (PDCA) process to solve problems themselves					2	3	4	4								
Use Process Mapping to understand the current state and develop the future state, using tools like flow charts, swim lanes, and value stream mapping					2	3	4	4								
Create and sustain a Daily Huddle—a highly customized, very brief meeting designed to improve communications and information sharing					2	3	4	4								
Learning to Improve																
Use the Scientific Method (Plan-Do-Check-Act cycle, A3s, kata)					2	3	4	4								
Develop metrics, collect and analyze data. Use tools like check sheets, surveys, gemba visits (drawing, observing, asking, interviewing, measuring, and timing), Pareto charts, run/control charts, scatter diagrams, histograms, charts, graphs, and tables					2	3	3	4								
Determine current state and describe future state (What is happening and what should be happening)					2	3	4	4								
Analyze gap/root cause using tools like brainstorming, the 5 Whys, force field analysis, affinity diagrams, fishbone diagrams, failure modes and effects analysis (FMEA), takt time, Supplier-Input-Process-Output-Customer (SIPOC), spaghetti diagrams, and storyboards					2	3	3	4								
Use Lean decision-making and prioritization tools like ICE, PACE, decision matrix, and multi-voting					2	3	4	4								
Develop countermeasures like flow, pull, kanban, error proofing (poka yoke), andon, 5S, standard work, knowledge folders, quick changeover (setup reduction), heijunka (load leveling), point of use, just in time, job instruction, and cell design					2	3	3	4								
Use Implementation Plan support tools like gantt charts, RACI, stakeholder analysis plans, training, and communication plans					0	2	3	4								
Assess process performance with countermeasures in place, track trends, establish Key Process Indicators (KPIs) and tap employee sentiments about the changes, using a tool like 15 Words									1	2	3	4				
Adopt improvements using tools like standard work, checklists, visual management, and audits, while monitoring system for unintended consequences; return to the plan as needed									2	3	3	4				
Include the customer point of view in improvement decisions (What does the customer value? Value adding activities are those the customer is willing to pay for, they transform the product or service, and they're done right the first time)									2	3	4	4				
Gemba—go and see the place where work is being done. Additional gemba activities include walking the process backwards or "stapling yourself" to a product or service									2	3	4	4				
Use Lean to achieve organizational goals and business results									1	2	3	4				
Leading -- Self																
Use Reflective Learning techniques for self-improvement									2	2	3	4				
Use Systems Thinking when using PDCA for improvements									1	2	3	4				
Display Humility when working with others. Understand that you don't know more about the process than the person who does the work									2	3	4	4				
Use Perspective Taking, while considering the other person as having positive intent and making rational decisions									2	3	4	4				
Question Status Quo; always be asking Why are we doing this? Should we be doing this?									0	2	3	4				
Create and follow a personal plan for continued growth and development in Lean									2	3	4	4				
Leading -- Others																
Respect others by believing they can solve their own problems and coaching them through it, providing timely feedback, and not blaming people for problems									1	2	3	4				
Use Conflict Management techniques when needed									1	2	3	4				
Understand Nonverbal Communications									1	2	3	4				
Develop listening skills									2	3	3	4				
Facilitate kaizen, through establishing and enforcing ground rules, meeting management, and participant involvement/ inclusiveness									2	3	4	4				
Working in teams, applying team stages, roles, and the use of a team operations document to enhance team performance									1	2	3	4				
Confidently speaking in front of groups and teams when the situation calls for it									2	2	3	4				
Using coaching to help another person learn a specific task or process or overcome a challenge													1	2	3	4
Using mentoring to guide a person's development in a field of interest													0	1	2	3
Teaching others about Lean culture, processes, methods, and tools													0	1	2	3
Looking Ahead																
Using Change Management techniques, for example, using opportunity vs. obstacle thinking, and employing tools like a Sponsor Participation Roadmap, and Threats & Opportunities and/or More of/Less of discussions													1	2	3	4
Create a vision, which includes understanding the mission and what we deliver, and establish goals, making them SMART, and use strategy deployment to achieve them													1	2	3	4
Consider the impact to one's Future Self in improvement													1	2	3	4
decisions																
Balance the long term view with the short term one. Ensure short term gains don't create problems for the long term. Consider the impact to the organization's Future Self in improvement decisions.													0	1	2	4
Lean Bronze Certification Skills																
Understand cost, productivity, and results as it relates to manufacturing													0	1	1	1
Understand distribution, logistics, and delivery as it relates to manufacturing													0	1	1	1
Understand Lean product design as it relates to manufacturing													0	1	1	1
Understand Total Productive Maintenance as it relates to manufacturing													0	1	1	1

Level of Learning Self Assessment Heat Map



- Self Assessment is compared to the level the facilitator is certifying
- Dark Green = Double Above
- Green = Above
- Yellow = At
- Red = Below
- Dark Red = Double Below



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Take the Lean Skills Self-Assessment

Lean Personal Development Plan A3



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Create your personal development plan

- Look at your Level of Learning Score Report
- Analyze your scores vs the target competency to identify gaps
- Choose smart goals to address gaps
 - Align your A3 activities with your work and performance goals
- Define steps to take to achieve goals and create action plan
- Analyze any potential road blocks to achieve goals
- Develop method to reflect on and analyze progress so you stay on track

One-on-One Coaching



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- Portfolio used to manage requirements
- Assigned coach for portfolio completion
- Quarterly check-in meetings required
 - Discuss the plan to complete the portfolio
 - Use checklist, document current state and plan
 - Report to Office
- Office will check in with supervisor
 - Report progress and concerns, if applicable
- Office provides opportunities to meet requirements
- Board-member review at end of cycle

Annual Recommitment



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- Facilitator chooses level they want for upcoming year
- Supervisor approval is obtained
 - Supervisor may withdraw facilitator from the program at any time for any reason
 - Supervisor is contacted quarterly, and notified if coach is concerned about progress

Lean Facilitator Development Board



NETWORK for CHANGE & CONTINUOUS INNOVATION

Advises the office on Lean facilitator training, development, certification, strategy, and deployment

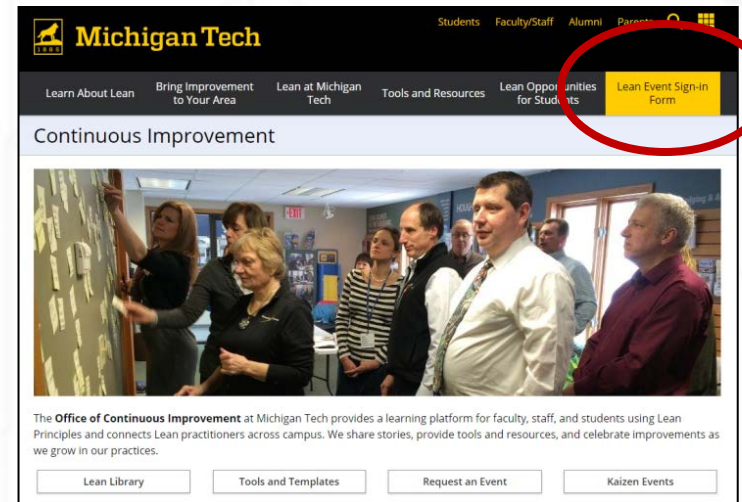
- Participate in confirmatory and level-up board processes
- Coach 8-10 facilitators, bring issues back to the Office
- Collaboratively improve the facilitator development program, write procedures and develop processes

First Cycle Complete!

- Facilitators like the process
 - Keeping track of community of practice, continuing education, & teaching participation was biggest irritant
- Participation at events has doubled
- 15 of 16 new training graduates committed to Level 1 Practitioner (8) or Level 2 Facilitator (7)



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Next Cycle Opportunities for Improvement



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- Develop a fair selection process for the facilitator training
- Address a desired distribution of Lean facilitators across the VP areas, with a possible cap on the total number of active facilitators
- Provide self-study resources for all mind map items
- Provide electronic portfolio option

Discussion



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- What are your thoughts on the elements of this development program?
- What do you like about the program?
- What elements would you add?
- What problems would you worry about?
- What would you see as the benefit of having a development program in your area?

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- What questions or concerns do you have?
- What about this will be difficult to do?

