



Lean Construction Institute

Building Knowledge in Design and Construction

First take a look at an opportunity to provide instruction in a course for managers working in IPD/Lean projects. Interesting links and a reflection on curves without data follow.

LCI has an agreement with the Workforce Institute, located at the San Jose/Evergreen Community College District Office, to develop and teach a series of courses designed to develop people's ability to manage IPD projects. LCI has the obligation to present these courses to 75 people in the San Jose area. Read more if you are interested teaching in this series.

The first session of the first course, an Introduction to IPD/Lean projects will be on August 27 in San Jose. I will make that presentation and am always willing to have another hand and voice. Following that, there are a series of courses with topics and dates listed below.

LCI's contract includes funds for travel and speakers fees. Instructors, with the help of LCI, will need to prepare presentation materials and identify supporting readings. The courses are listed below with rough dates for their presentation. The date for Class 100 in August is fixed. There is some flexibility for later sessions to mesh with instructor availability but the changes should be within a week to align with marketing. Every one of these courses would benefit from having an Owner Project Manager or Executive who has led an IPD team and any other person with direct experience on an IPD project.

Class 100: An Introduction to IPD for Decision Makers (8 hours)

August 27, 2012 – Greg Howell and.... I could use some help particularly with contract and insurance issues.

September 27, 2012 – Instructors needed.

This session will provide an overview of IPD and Lean Construction using a series of simulations, lecture and discussion. Topics include:

- Basic Understanding of IPD
- Parade of Trades Simulation
- Contract Structure for all IPD team members
- Insurance
- Risks
- Benefits
- Project Timeline

Class 200: IPD for On-Site Management Stakeholders (proposed 4 hours)

September 28 – A Lawyer & IPD project manager would make a great team.

Participants in 200 must have attended 100. This session explains the commercial terms applied on IPD projects and an over view of typical management practices.

- Contract Structure for all IPD Team Members
- Review of typical routine meetings on IPD projects
- Issue escalation and resolution
- Insurance
- Risks
- Benefits
- Project Timeline with IPD



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Class 300: IPD for Practitioners (4 hours)

Course 300 will be held the week of October 15-19. Instructor with strong skills in Last Planner®, TVD & Set Based Design, and Choosing By Advantages.

Building on 200, Class 300 presents basic IPD/Lean practices, particularly the basic principles of these planning related practices and their management.

- Review of Basic Concepts of IPD and Lean Construction
- Pull Planning & Last Planner® System
- Target Value Design & Set Based Design
- Choosing by Advantages

Class 400: Tools for IPD Team Members (3 – 4 hour sessions)

Course 400 Sessions will be held the week of November 12-16.

There are 3 sessions in Class 400. Each will more fully explore the topic to provide participants with a deeper understanding of the practices and their management. Session 1 should be led by a designer or manager of design; Session 2 by an instructor with experience in each subtopic. Session 3 may be led by a person with a background in “traditional” lean practices and who has had experience in Lean Construction.

I. Lean Design

- Target Value Design (TVD)
- Set Based Design

II. Lean Supply

- Last Planner® System
- A3s & Choosing by Advantages (CBA)
- Process Design; BIM (Lean Design)

III. Lean Assembly and Improvement Techniques

- Offsite Fabrication and JIT (Lean Supply)
- Value Chain Mapping; Visual site; 5S; Daily Crew Huddles (Lean Assembly)

Interesting Links

The 14th LCI Annual Conference is set for Washington DC in the week of October 8th. Register at <http://lci-congress-10-2012.eventbrite.com/>

The 2nd Annual LCI Australia Annual Meeting: Speakers and Presentations - [LCI Annual Meeting](#)

On Last Responsible Moments – Courtesy of Rebecca Bettler of LPC: [Last Responsible Moment](#)

On Constraints and the clash between Lean Construction and traditional project contracts. Courtesy of Porter



Hedges: [What is a Constraint - a Legal Perspective](#)

On Improvement: http://www.slideshare.net/mike734/the-wrong-kata?ref=http://www.lean.org/kata/?utm_source=iContact&utm_medium=email&utm_campaign=Traditional%20Newsletter&utm_content=Aug+8

Also from Australia: a note by Ken Lowe on the "[Rise of Volition](#)".

An offer you can refuse but shouldn't: Kelley McNatt is offering to send first edition copy of her now comic-book-soon-to-be-major-superhero-motion-picture, "Lean Lady", to the first 10 who send a request to leanlady@hotmail.com.

And if you didn't watch this presentation before by Donald Reinertsen author of "Managing the Design Factory", "The Principles of Product Development Flow", other books and blogs – [Wrong Lesson From Manufacturing](#) - and my current favorite presentation on managing in uncertainty and the leadership required: <http://vimeo.com/4594781>

Then take a look at this example of Kaizen: [Kaizen from Michael Baudin](#)

I was feeling almost caught up or more recovered from the intellectual hangover from the IGLC meeting. And then the phone rang. A good friend, long time supporter of LCI and a LEADER in Lean Construction asked me for some help. He was thinking through some communication and teamwork problems on an IPD project in the design phase. As luck, maybe good or bad, would have it, I had been thinking about this from both a team dynamics and a leadership perspective. The LEADER was familiar with Tuchman's stages of team development. [Stages of Team Development](#). And he had read all sorts of articles on Leadership but found little new or provocative.

I had just read a fascinating article from a recent Harvard Business Review, "The New Science of Building Great Teams" by Alex "Sandy" Pentland. You can download it or read online at [Science of Teams](#) if you establish an account with HBR. No charge. And I referred him to Donald Reinertsen's video "Decentralizing Control: How Aligned Initiative Overcomes Uncertainty: [Don Reintertsen at LSSC12](#).

This HBR article by Sandy Pentland is built on electronically collected data that allowed the researchers to understand the patterns and nature of communication. I like the article because it gives us a way to look at behavior in the team, understand the implications and take action. Here is a lengthy quote on the findings:

"The data also reveal, at a higher level, that successful teams share several defining characteristics:

1. *Everyone on the team talks and listens in roughly equal measure, keeping contributions short and sweet.*
2. *Members face one another, and their conversations and gestures are energetic.*
3. *Members connect directly with one another—not just with the team leader.*
4. *Members carry on back-channel or side conversations within the team.*
5. *Members periodically break, go exploring outside the team, and bring information back.*

The data also establish another surprising fact: Individual reasoning and talent contribute far less to team success than one might expect. The best way to build a great team is not to select individuals for their smarts or accomplishments but to learn how they communicate and to shape and guide the team so that it follows successful communication patterns.

The Key Elements of Communication

In our research we identified three aspects of communication that affect team performance. The first is energy, which we measure by the number and the nature of exchanges among team members. A single exchange is defined as a comment and some acknowledgment—for example, a "yes" or a nod of the head. Normal conversations are often made up of many of these exchanges, and in a team setting more than one exchange may be going on at a time.

The most valuable form of communication is face-to-face. The next most valuable is by phone or videoconference, but with a caveat: Those technologies become less effective as more people participate in the call or conference. The least valuable forms of communication are e-mail and texting. (We collect data on those kinds of communication without using the badges. Still, the number of face-to-face exchanges alone provides a good rough measure of



energy.) The number of exchanges engaged in, weighted for their value by type of communication, gives each team member an energy score, which is averaged with other members' results to create a team score. Energy levels within a team are not static. For instance, in my research group at MIT, we sometimes have meetings at which I update people on upcoming events, rule changes, and other administrative details. These meetings are invariably low energy. But when someone announces a new discovery in the same group, excitement and energy skyrocket as all the members start talking to one another at once.

The second important dimension of communication is engagement, which reflects the distribution of energy among team members. In a simple three-person team, engagement is a function of the average amount of energy between A and B, A and C, and B and C. If all members of a team have relatively equal and reasonably high energy with all other members, engagement is extremely strong. Teams that have clusters of members who engage in high-energy communication while other members do not participate don't perform as well. When we observed teams making investment decisions, for instance, the partially engaged teams made worse (less profitable) decisions than the fully engaged teams. This effect was particularly common in far-flung teams that talked mostly by telephone.

The third critical dimension, exploration, involves communication that members engage in outside their team. Exploration essentially is the energy between a team and the other teams it interacts with. Higher-performing teams seek more outside connections, we've found. We've also seen that scoring well on exploration is most important for creative teams, such as those responsible for innovation, which need fresh perspectives."

Energy, Engagement and Exploration: Repeating first letters make me nervous but it is easy to remember. On reading this paper, I immediately thought of Pull Planning Meetings where energy is usually high and the larger group and smaller included "teams" swing between deep engagement on mutually important matters and broader explorations of alternative designs for their work together. There is some interesting research to be done here. It would be interesting to compare the triple "Es" in meetings on traditionally managed projects and those managed under Lean/IPD. For a start, this would be a great project for a student pursuing a Master's.